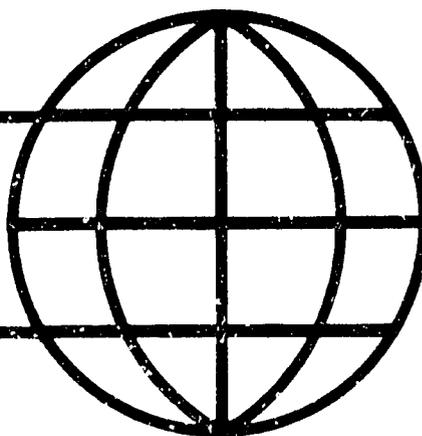


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**COOPERATIVE AGREEMENT ON HUMAN SETTLEMENTS
AND NATURAL RESOURCE SYSTEMS ANALYSIS**



Clark University
International Development Program
950 Main Street
Worcester, MA 01610

Institute for Development Anthropology
99 Collier Street
Suite 302, P.O. Box 2207
Binghamton, NY 13902

Staggering Along and Buying Time:
The Smallholder Tea Authority and
Plantations in Malawi

by H 14

R. W. Palmer-Jones
Agricultural Economics Unit
Queen Elizabeth House
Oxford University

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The findings and recommendations in this report engage only their author and do not necessarily represent official positions of the Agency for International Development, the Government of Malawi, or the Smallholder Tea Authority, Malawi.

PREFACE

This Working Paper is part of a larger research project on Contract Farming in sub-Saharan Africa conducted by the Clark University/Institute for Development Anthropology Cooperative Agreement on Settlement and Resource Systems Analysis (SARSA) for the Africa Bureau of the US Agency For International Development (AID).

For purposes of this study, contract farming is defined by three fundamental characteristics: (i) a futures or forward market in which a buyer or processor commits in advance to purchase a crop acreage or volume; (ii) the linkage of product and factor markets insofar as purchase rests on specific grower practices or production routines and input and/or service provision by buyer-processors; and (iii) the differential allocation of production and marketing risk embodied in the contract itself. Contract farming includes, therefore, the large-scale nucleus-estate/outgrower schemes associated with, for example, palm oil in West Africa and sugar production in Kenya; the parastatal, export-oriented smallholder schemes associated with tea, tobacco, and coffee in Central and East Africa; and a multitude of private schemes producing fresh fruits and vegetables for canning, drying, and direct export to international markets.

Contract farming in a variety of institutional forms has been present in North America since the 1930s, but it has more recently become of increasing importance in Third World states, particularly throughout much of Africa. The objective of this study is to assess the form, organization, and impact of a diversity of contracting arrangements in sub-Saharan Africa, based on both secondary literature and field research in seven countries (Gambia, Nigeria, Ivory Coast, Ghana, Kenya, Malawi, and Senegal). The case studies have been carefully selected to represent the primary commodities and diversity of institutional forms of contract farming. A final report, based in part on the representative case studies, will indicate the conditions under which contract farming emerges; assess the distribution of costs and benefits to the principal actors, including growers; and evaluate the role of contract farming with respect to donor and host-government policies, technology transfer, and institutional development.

Michael Watts and Peter Little

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ACRONYMS

ADD	Agricultural Development District
ADMARC	Agricultural Development and Marketing Corporation
AES	Agro-Economic Survey
AG	Actual Grower
ANR	Average Net Revenue
ANRP	Average Net Revenue Product
CAS	Centre of African Studies, University of Edinburgh
CDC	Commonwealth Development Corporation
CTM	Chief Technical Manager
GES	Grower's Economic Survey
GLME	Green Leaf Monitoring Exercise
GLP	Green Leaf Price
GM	General Manager
KTDA	Kenya Tea Development Agency
MATECO	Malawi Tea Company (factory)
MNA	Malawi National Archives
MTA	Malawi Tea Association
NSSA	National Sample Survey of Agriculture
NTA	Nyasaland Tea Authority (later MTA)
ODA	Overseas Development Administration
PAO	Principal Agricultural Officer
RG	Registered Grower
SDR	Special Drawing Rights
SP	Southern Province
STA	Smallholder Tea Authority
TRF	Tea Research Foundation
TRFK	Tea Research Foundation of Kenya
TRS	Tea Research Station
VP	Vegetatively Propagated (plant material)

1. Introduction

The development of smallholder tea production in Africa in the past two decades can be seen as a challenge to the idea that tea is a crop that is "ideally suited to the plantation system" (Minot, 1985). The main characteristics of tea production that give rise to this presumption are the need for coordinated harvesting, in order to keep expensive factory capacity efficiently utilised, and the perishability of the unprocessed tea. Other factors are the supposed technical difficulties of tea production, especially planting and harvesting, and the long gestation period and consequent high finance costs. These characteristics limit the possibility of a market in unprocessed tea, while imperfect capital and knowledge markets impede planting and husbandry; hence, it is argued, a large-scale hierarchically organised unit employing wage labour and with better access to knowledge and capital will have an organisational advantage.

The success of the Kenya Tea Development Authority (KTDA), where tea production is by smallholders, can be seen as a challenge to these arguments. The usual explanation of the KTDA's success repeats them, however, drawing the conclusion that contracts with smallholders can effectively substitute for wage labour. Thus it is suggested the KTDA has overcome the technical and organisational difficulties of smallholder tea production by replicating the efficient large-scale and hierarchical management structure of a plantation, and by instituting enforceable input supply, husbandry practices, and marketing contracts with smallholder tea growers, backed up with efficient management and extension. As in the discussion of contract farming more generally, the scheme is held to obtain some of the advantages of smallholder production while overcoming its disadvantages. For the labour-intensive and geographically dispersed phase of production, labour provided by the smallholder is more directly rewarded for the effort expended, and supervision costs are reduced compared to wage labour. The supposed disadvantages of smallholder production in access to technical knowledge and information, credit, and markets, and in risk aversion are overcome through the provision of extension, inputs, and credit, recovered through the sale of tea leaf on contract to the KTDA. Criticism of the scheme has suggested that its practices, while not undermining the financial autonomy and viability of the scheme, were largely determined in the interests of the plantation companies.

Problems of the similarly organised smallholder tea scheme in Malawi have been explained in a manner consistent with this line of argument by pointing to the ecological marginality of Malawi for tea production; there was nothing essentially inadequate in the management structure or its performance.

In this study, to the extent that resources have permitted, I examine the history and performance of the Malawi smallholder tea scheme, and some aspects of the KTDA. I will suggest that while both management performance and ecology have their roles to play in the respective stories--somewhat along the lines suggested above--had the ecology in Kenya been less favourable, and the management in Malawi been better, the outcomes might well have been partially reversed. This has implications for the discussion of the potential for contract farming: it is not only that appropriate technical characteristics of the crop, institutions, and ecology are required, but the conditions for those institutions to function properly are important, and the factors that determine their performance are an essential component of any account of contract farming. It may be that the success of a contract farming scheme depends not so much on the appropriateness of the crop and the institutional arrangements, but on the conditions that determine how they function.

These conditions are intimately linked to the particular history of each case. Both schemes evolved against a background of discussions with the established tea plantation industries in their respective countries. In the Kenyan case it has been argued that the plantation sector had a significant impact, not entirely benign, on the design of the scheme; the Kenyan scheme was a strong influence on the evolution of the scheme in Nyasaland and, later, Malawi. Opposition to smallholder tea production from plantations was initially much stronger in Nyasaland than in Kenya. But as we will see, the policies that have been attributed to the plantation sector in Kenya, and may have harmed the scheme in Malawi, were in fact imposed by officials of the government, were widely perceived by tea experts as correct, and have often been attributed a role in the success of the KTDA. Even where the Malawi scheme deviated from the Kenyan there were experts to argue in favour of the practices adopted in Malawi. The question of whether mistakes were made, and if so why, is debatable, as I hope to show. That these mistakes, or their effects, may have been in someone's interest does not necessarily mean that that was why they came about, or were allowed to continue. The discussion raises questions and draws attention to factors that may be important for policy toward and practice of contract farming, and it argues against simple-minded explanations of a deterministic nature; but by the nature of the case conclusive explanations cannot be given.

1.1 The Smallholder Tea Authority in Malawi.

The Smallholder Tea Authority (STA) in Malawi, a parastatal established in 1967, is currently responsible for an estimated 2350 hectares of tea, divided among 4815 Registered Growers (RG) in Thyolo and Mulanje Districts, in the south of the country. This area represents about 13 percent of the total area under tea in Malawi, and about 7 percent of the gross output (1985-86 crop year). Tea exports have been a high proportion of all exports from Nyasaland and Malawi, which has been dependent on a small number of agricultural exports; at times the proportion of export value contributed by tea has reached over 40 percent, but in recent years the proportion has fluctuated around 20-30 percent, depending on its own price and the prices of other export crops--mainly tobacco and sugar--which are highly volatile. In 1982, for example, tea exports were worth MK45.25¹ million; total exports were MK262 million.

The proportion of output contributed by smallholder tea producers is lower than their proportion of area. Two factors account for this: first, more of the smallholder tea is young, not yet yielding its full potential; second, even at maturity the yield of smallholder tea appears to be lower than that of estates, despite the generally higher genetic potential of material planted by smallholders as compared to the bulk of estate tea, which was planted before improved materials became available. While estimating the yield of mature smallholder tea presents considerable difficulties (see Palmer-Jones, 1985, and section 6 below), a reasonable guess puts it below 1500 kg of made tea (kgmt) per hectare, while the Malawi average is over 2150 kgmt per hectare. The yield is lower partly because much of the smallholder tea has been planted in somewhat more marginal areas, but this probably accounts for only a small part of the difference. Other explanations for the difference, which also occurs in Kenya, with a detrimental effect on the viability of the scheme, play a considerable part in the discussion that follows.

The Smallholder Tea Authority is charged with "the development of tea growing [by smallholders]." ² It is responsible to a board of directors, which includes members of the government (the Ministry of Agriculture and the Treasury), representatives of the plantation sector, of the Commonwealth Development Corporation (CDC)--the British aid agency that invests in production in Third World countries--and smallholder representatives. The scheme was preceded by a period from 1964 to mid-1967³ when the Malawi Government organised the planting of just over 220 acres of tea by smallholders in a few areas in Mlanje District, to establish the feasibility of smallholder tea growing in Malawi and to show a commitment to it, as a requirement of future CDC funding.

Under the scheme, growers are provided with planting materials and fertilizer (for the first five years) on credit; these amounts are capitalised into the grower's loan account. Under the present arrangements, the loan account bears interest at 1.25 percent for the first 7 years and 8 percent per annum thereafter. Growers are paid for green leaf that they sell to the Authority in two installments: a first payment is made after the month end in which the leaf is supplied and, at least in principle, a second payment is made after the closing of the year's accounts, according to the overall finances of the STA. No second payment was made until 1975. The second payment has usually been paid between December and February following the end of the crop year, although very recently payments have been made in November. The loan account is repaid by deductions from the gross amount of the first payment at a flat rate (0.626 tambala per kg green leaf) until it is completely repaid. This deduction also covers the cost of leaf purchase, collection, and transport. Fertilizer, supplied to the grower from the sixth year on seasonal credit (although this was dropped between 1980 and 1984 because of the financial straits into which the scheme had fallen--see below), is paid for by deductions from the first green leaf payments; but not more than half the amount due after payment of the capital cess in any month can be deducted. Seasonal loans that are not completely repaid by the end of a season were formerly added to the capital loan account, but more recently they have been carried over to be repaid, if possible, from the next year's seasonal credit.

The project consists of a headquarters with a general manager overseeing finance, field, and planning sections. The Finance Section is headed by an accountant seconded from CDC. The Field Section is headed by the chief technical manager, and his deputy; below them are two divisional managers and their staffs, stationed in Mulanje and Thyolo, respectively, and a nursery manager with staff stationed in the various nursery sites. The field staff is responsible for purchase and transportation of green leaf, distribution of fertilizer and other agricultural inputs, and the extension of advice to growers. The Planning Section is responsible for the construction of roads and bridges, leaf sheds, and other works and for the layout of tea plots, their conservation, and the overseeing of planting. As shown in Tables 1 and 2, the staff has grown with the project.

Table 1. Current Area, Production, and Pricing by the Smallholder Tea Authority in Malawi

YEAR	AREA(HA)			OUTPUT (KGS)			GREEN LEAF PRICE t/kg	MINIMUM AGRIC. WAGE t/day
	ACTUAL	TARGET	% OF TARGET	ACTUAL	TARGET	% OF TARGET		
1964-6		54.73						
1965-6		80.64						
1966-7		137.80		1,453	356	24		
1967-8		191.21		14,710	38,742	263		
1968-9		287.52		55,433	90,297	163		
1969-70		421.89		126,422	168,022	133		
1970-1		600.29		251,857	405,777	161		
1971-2		792.83		455,453	409,890	90	5.5	24
1972-3		928.19		769,019	742,128	97	5.5	24
1973-4		1,089.55		1,210,233	1,529,367	126	5.5	26
1974-5		1,281.20		1,742,162	1,698,162	98	5.5	26
1975-6		1,505.72		2,394,453	2,301,620	96	5.5	26
1976-7		1,690.65		3,165,566	2,887,508	91	6.5	26
1977-8	1902	1,874.71	99	4,058,987	3,305,584	81	7.5	26
1978-9	2125	1,995.14	94	5,032,590	4,040,117	80	7.5	26
1979-80	2348	2,123.51	90	6,368,488	5,216,937	82	7.5	30
1980-1	2571	2,227.17	87	7,421,161	5,923,101	80	8.5	50
1981-2	2793	2,327.59	83	8,486,109	6,079,338	72	9.5	58
1982-3		2,336.36		9,526,614	6,985,937	73	12.0 ^a	58
1983-4		2,347.60		10,513,687	7,767,201	74	23.0 ^b	58
1984-5	3420	2,349.01	69	11,398,100	10,208,871	90	26.0	58
1985-6				12,182,010	13,320,767	109	(15.0)	70

^aThe first payment changed from 6.5 to 8 t/kg.

^bThe first payment changed from 8 to 10 t/kg.

Table 2. Management Staff of the STA (number)

<u>Headquarters</u>	<u>1973</u>	<u>1976</u>	<u>1982</u>
GM	1	1	1
Finance	1+2	1+2	1+2
Field	1	1	2
Nursery	1	?	1+8
Planning	1+4	?	2
Mulanje Field	12	2+16	2+18
Planning		?	1+19
Thyolo Field	6	1+9	1+13
Planning		?	1+11
<hr/>			
Totals			
HQ	4	4	4
Field	20	28+?	45
Planning	5	?	34
<hr/>			

Sources: 1972/73 Annual Report of STA; CDC, 1977:3; CDC, 1982:12.

1.1.1 The Legal Structure of the Authority

The official structure of the scheme is laid out in the various Gazetted Ordinances and Laws establishing the Smallholder Tea Authority, its form and functions, and the Growers' Rules. For example, while perhaps not the latest legal instrument, the Smallholder Tea Order made under the Special Crops Act, 1963, of 1974 states:

- The Authority shall consist of;
- a) the Permanent Secretary of the Ministry of Agriculture who shall be Chairman;
 - b) the Director of Agriculture;

- c) a representative nominated by the Malawi Tea Association;
- d) a Secretary to the Treasury;
- e) not more than two persons noted for their ability and experience in the field of finance or commerce as the Minister may appoint;
- f) not more than three Growers' Representatives;
- g) not more than one other member who, in the opinion of the Minister, is qualified to further the work of the Authority;
- h) a representative, if the institution so desires, appointed by the Minister on the advice of any institution which provides [a] medium or long term loan for so long as such loan is outstanding.

Authority functions:

- a) prepare and carry out schemes for tea development:
 - i) nurseries
 - ii) purchase of planting material
 - iii) sale to growers and others of planting material
 - iv) growing of tea for demonstration or commercial purposes
 - v) supervision of tea cultivation by growers
 - vi) inspection of growing and harvested tea
 - vii) purchase, collection, transport and marketing of green leaf from growers
 - viii) processing or sale of green leaf
 - ix) transport and sale of made tea
 - x) providing any other services as shall be conducive to the development of tea growing
- b) deduct from monies held on behalf of growers by the Authority or the price due on the sale of tea by growers to the Authority any levies or fees for services or materials provided.

Powers

. . . .

- c) to pay to growers any sums received from processing factories, after making any provision necessary under para (g);
-
- g) to create and operate a price stabilisation fund or any other reserve funds which the Minister may approve;
-
- l) with the approval of the Minister, by Order published in the Gazette:
 - i) impose a levy or levies on growers for the purpose

- of financing the operations of the Authority;
- ii) regulate and control the marketing of tea by growers;
- iii) control the purchase and sale and distribution by licensing or otherwise of planting material;
- iv) provide for any other matter which is approved by the Minister as being in the furtherance of the development of tea or incidental or conducive to the exercise of any of the functions or powers of the Authority.

- 8) Levies imposed by the Authority shall be collected by way of deductions from the payments made to growers for the sale of tea and shall be made in such a manner as the Authority shall direct.

1.1.2 The Duties of Growers

A Tea Order made under paragraph 7 of the STA Order spells out the obligations of growers:

. . . .

- 3) No grower may establish a tea nursery except with the written permission of the Authority, which may attach conditions;
-
- 5) a grower may use only planting material which has been supplied by the Authority;
- 6) a grower will be required at all times to maintain his tea garden to the standard of soil and plant husbandry laid down from time to time by the project management;
- 7) a grower will uproot and destroy tea plants in his garden if required to do so in writing by the Authority;
- 8) a grower may offer green leaf for sale only to the Authority;
- 9) the Authority may at its discretion refuse to buy any green leaf offered;
-
- 13) any person who contravenes or fails to comply with any of the provisions of the Order shall be liable to a fine of K100 and to imprisonment for 6 months, and in addition, any made tea belonging to him or found in the possession of any person convicted of an offence under para 12) shall be confiscated and destroyed in such manner as the court shall direct

It is not clear exactly what is the growers' status since, as will be shown below, there have been continual problems with the enforcement of grower "discipline", and Growers' Rules, while known to exist, have not been clearly promulgated, nor is their enforceability clearly established. Nevertheless, it is implicit in the thinking behind the scheme that growers are allowed to grow tea providing they comply with the instructions of the STA; hence the similarity to contract farming.

The smallholder tea areas are divided into two districts, Mulanje and Thyolo. Within each district, growers in a geographical area are grouped into blocks, and within blocks they are organised into groups. Groups appear to be largely fictional, but blocks have committees of elected members, and each district has a district committee of nominally elected members. The most important position is that of District Growers' Representative. This representative also serves as Chairman of the District Committee, an appointment that has to be approved by the local Malawi Congress Party leadership. The Growers' Representatives sit on the Board of the STA, to represent the interests of growers, but, as we will see, they are not qualified to challenge the management or the plantation members of the Board; in many cases they seem to act as extensions of the management in trying to persuade growers to implement policies.⁴ I will argue below that, perhaps as a result of long-term suspicion of STA management due to the lack of a consultative approach, growers had become resistant to innovations introduced by management, this even less able to play an appropriate role.

The powers of the Authority and the duties of growers differ little from those of a number of similar legislations; in an immediate way they derive from the Kenya Native Lands Tea Rules of 1953. As far as economic structure is concerned, they give the Authority monopoly powers over the provision of inputs and the purchase of output. This allows the Authority to control the quality and type of planting material (which it has been able to exercise even up to having illegally planted material uprooted, as in 1986). It can also in principle specify the husbandry practices, and hence the level and timing of inputs the grower uses, but in practice this power has not been total, leaving growers some slight freedom to maneuver subject, to various types of threats that the Authority or its staff can bring to bear. A number of growers have been forced to transfer their holdings to strangers, and rather more have been persuaded to allocate them to relatives, while others have increased their inputs under pressure. Nevertheless, at least until very recently, the limitation on action against what were considered poor growers was seen as a major constraint on the success of the scheme (see for example CDC, 1982a).

1.1.3 Pricing of Smallholder Tea

The grower must sell to the Authority and will be paid a price from the revenue generated by the Authority's sale of the leaf or the tea made from it, after deduction of Authority expenses. The unit with which the STA deals is a Registered Grower (RG). Each RG has a number, and the planting materials and fertilizers recorded as issued to a specific grower give rise to a debt that accumulates against this number. The debt, which is supposed to cover certain of the expenses of the Authority, is cleared by deductions from sales of green leaf recorded as coming from the Registered Grower. As we will see, the RG is often not the person who controls the plot and receives its income. Capital cess deductions are made at the rate of 0.0138 tambala per kg green leaf recorded as sold by this RG, starting in the sixth year after the RG started planting. A seasonal loan for fertilizer is deducted monthly at the rate of 50 percent of the first payment until it and any backlog has been paid off. Any seasonal loan outstanding at the end of a financial year is deducted from the second payment. Any further amount outstanding is carried over to the next year.

The Green Leaf Price (GLP) in principle reflects the financial position of the STA. In the early years, however, the costs of the STA exceeded its revenue, and the GLP had to be based on projections of future financial viability. It is unclear how the expenses of the Authority are to be calculated, and in practice many expenses associated with the project have been paid from other funds.⁵ The actual payments made by the Authority do not make things much clearer. To some extent, during periods when the STA has been financially precarious, the GLP has been the minimum that was thought acceptable to growers. When finances improved, after some bargaining the STA paid out most of the financial surplus. What seems to happen, for both the first and second payments, is that the Board of the Authority makes a recommendation to the President's Office; the President then announces the price, which may not be the recommended one. This process allows growers to exert pressure through the Malawi Congress Party. A principle that strongly influenced agricultural price-setting by the Ministry of Agriculture, at least in the 1970s, was that the first payment should never be reduced no matter how much the final price of the product fell. Consequently it was set rather conservatively. No second payments were made by the STA until 1975/76, and these were either held constant or increased slightly in every subsequent year up to 1983/84, when the second payment rose from 4t/kg to 13t, rising again to 14t in 1984/85.⁶

From the way in which the Authority makes its recommendations to the President's Office, it appears that the nearest model of the intention underlying the procedure is to pay the growers the scheme's average net revenue (ANR) (including

subventions and subsidies), without discrimination among growers. However, in the early years of the project (which are expected to extend into the 1990s), interest payments and loan repayments are so high as to allow no surpluses from which to pay growers. Later, after the loans have been repaid, surpluses are expected to be available. Extra loan repayments, which exacerbate the problems of negative cash flows, have been required because the Authority, rather than sell green leaf to established estate factories, constructed a new factory in 1974. Whether this factory was really necessary is a matter to which I shall return.

This cash flow pattern makes calculation of ANR in the early years difficult. The price that can be paid in the early years depends on the amount and conditions of loan funds available, and will be probably be set in relation to what is thought to be a reasonable return to the grower. It is not clear how the original price was calculated in the appraisal documents. A price of 4 (old) pence (d) per pound of green leaf is used in the original appraisal by Phillips and Cox (CDC 1967), giving an estimated return of 12 percent to growers, at concessionary interest rates, after allowance for their own labour. An actual price of 2.5 tambala (approximately 1.75 d) per pound of green leaf (before deductions) was set in 1966; it was increased to 3 tambala per pound in 1976 and adjusted to 6.5 tambala per kg in 1980. The second payment, introduced in 1975 at a rate of 0.5 tambala per kg of green leaf, was increased the next year to 1.0 tambala.

Growers, not surprisingly, do not seem to understand how the price is determined. While many of them are knowledgeable about how fluctuations in the world market price of tea should affect them, they do not understand what is and what is not included in costs deducted by the Authority. Consequently it is not at all clear what price they use to reach decisions about their input levels, nor what price they should use. Growers seem unaware that unit green leaf payments could, in principle, increase considerably when loans are fully repaid, provided that the contribution of the government is not reduced. This possibility is not included in specimen smallholder budgets presented in various CDC documents. When loans are paid off, the ANR is the appropriate value, provided all surpluses are returned to growers.

It is well known that the payment of average revenue to suppliers of a cooperative can give rise to incentive problems (Le Vay 1983; Sexton 1984; Lopez and Spreen 1985). These problems were discussed in relation to the financial predicament of the STA in Palmer-Jones (1985); I argued there that, given the high overheads of the STA in relation to throughput, the supply curve of green leaf probably cut the upward sloping portion of the average net revenue product (ANRP) curve of the STA. Hence instead of cutting the unit raw material price in response to a

financial deficit, one possible way to return the STA to financial balance was to raise the green leaf price to engender greater supplies (see Figure 4 of Palmer-Jones 1985). Other courses of action suggested by this analysis would be to reduce STA overhead and variable costs, obtain increased output and revenue from existing areas by adopting new husbandry practices, obtain increased numbers of growers, or purchase green leaf from other sources for less than marginal revenue. Nevertheless, except in the event of the supply curve's cutting the ANRP curve at its maximum, the payment of ANRP would result in either over- or under-supply of green leaf compared to the economic optimum. These problems are typically overcome by one or more of three means: specifying input levels in some form of contractual terms, two-tier pricing of raw material, or "education" and participation of growers in collective decision making.

The analysis makes clear the distinction between myopic and full rationality in the behaviour of growers. For an individual grower, full rationality implies taking into account the effect of decisions on both his immediate output and the change in ANRP consequent on that change in output. Myopic rationality neglects the latter. The distinction is crucial because the response to myopic rationality will be one of the three mechanisms outlined above. Where growers are myopic, there may be some validity in recourse to "disciplining" "bad" growers and urging them to "pluck more", although, as pointed out above, education and participation, as well as two-tier pricing (similar to cost sharing) are other potential solutions. On the other hand, if most growers are characterised by full rationality, then the solution is more likely to lie in shifting the supply curve by adopting new techniques; increasing the number of growers or tea-growing areas, or buying green leaf; or raising the ANRP curve by reducing overhead or variable costs. The empirical problem, however, is to determine whether or not particular growers are myopic, since they do not have identical production functions or factor and product market circumstances.

1.1.4 Growers' Representation.

The structure of the scheme is such that growers are supposed to follow the Authority's instructions; if they consistently fail to comply they can be punished, at least in principle, by having their plots removed and penalties imposed. It seems to be assumed that if growers do as they are told, things will work out to have been in their interest. While they have considerable experience with tea as labourers, most smallholders have had no knowledge of tea management. They have to take what they are told to do by the STA on trust, and trust is supposed to be engendered by a system of representation. The formal system of communication and representation encompasses groups of growers, block committees elected by growers, and district committees; in addition, two growers' representatives

sit on the board of the STA. The extent to which the system functions to solve the incentive problem depends crucially on the context. In practice, as I will argue below, this system of representation has been largely ineffective in communicating growers' interests and in solving problems of education and participation, as illustrated by the exchange over a grower's budget that follows.

What attention is paid to incentives as perceived by a grower seems fairly naive. For example, the sample growers' budgets prepared by the Chief Technical Manager (CTM) in 1984 in response to a board request following submission of a

short 'income and expenditure' account prepared by the Growers' Representative Mulanje purporting to show the net revenue on a typical one acre plot. . . .

Agreed: that management should prepare a paper showing levels of budget for typical growers (ranging from good to bad performance) based on facts (STA Board Minutes 29/3/84).

The memorandum submitted by management states:

No charges are included for labour since the field operations are taken to be done by the grower and his dependents on a one acre plot (i.e. it is assumed that there is no opportunity cost to be put on labour) (Memorandum Ref. 713 from CTM to Deputy General Manager, 25/4/86).

The growers themselves rejected this assumption. The Mulanje District Committee Minutes for 19/6/84 note:

It was not true to say no labour costs were necessary because the growing of tea was based in family basis with dependents. . . dependents were not forced to work on the tea. It must be realised some are school children, others are married elsewhere and have their commitments. The grower's wife is also not bound to work on the plot every day because she has to do some domestic services. If a survey was carried out it would be found that on average every grower has a worker of either ganyu or permanent.

1.1.5 Sources and Composition of Finance

CDC took up funding of the STA in three phases, and also provided part of the finance for a factory to process smallholder leaf. These loans, denominated in £Sterling, were available at concessional rates. The first loan, in 1967, was for £220,000, repayable in 5 annual installments commencing in 1983, and was interest free for the first 7 years, during which an administrative charge of 1.25 percent per annum was paid. Thereafter, interest was paid at CDC's drawing rate plus the

administrative charge. The second and third loans, of £866,000 in 1972 and £575,000 in 1978, both repayable in 10 annual installments from 1987 to 1996, as well as the factory loan of £213,000 in 1974, were similarly given concessional rates. (The loans bore interest rates of 8 1/2, 7, 6 and 5 percent per annum, respectively).

From the start it was realised that the project was economically marginal, and hence that the government contribution to the project would have to be substantial. In 1966 the CDC conducted a feasibility study and in 1967 agreed to fund a project in which it was envisaged that some 2,000 acres (810 ha) would be established in the south and 185 acres in the north by 1972, subject to the Malawi Government's meeting a high proportion of the costs seen as necessary to the success of the scheme. In addition, the government has guaranteed the initial CDC loan of £220,000 and subsequent loans.

CDC funds cover only part of the expense associated with the project: the Malawi Government funds the STA Headquarters staff, extension staff, housing, transport, and feeder roads (with assistance from the British Government). The CDC loans cover the field development costs (mainly the costs of producing and distributing planting materials, fertilizers, leaf collection costs, finance costs, and costs of administration and accounting), while the Malawi Government covers the costs of the general manager and chief technical officer, extension staff, offices and workshops, staff housing, vehicles and roads. Thus a substantial proportion of the costs of the scheme have been born by the Malawi Government, partly out of British aid. The exact amounts cannot be calculated, but various estimates have been made in appraisal and evaluation documents.⁷ The ratio of STA to government capital expenditure is estimated in these different sources to have varied between 0.67 and 0.77, and the ratio for recurrent expenditure between 1.19 and 1.35. Total capital expenditure by the STA between 1977 and 2000 is estimated, in the appraisal of the completion of Phase II and Phase III (CDC 1977) to be MK2,470,000⁸ (excluding interest and loan servicing), while the government's development expenditure (housing, roads and bridges, motor vehicles purchase and running costs) would be MK3,392,000.⁹ On the recurrent side, STA operating expenses were estimated at MK3,065,000 while the government's recurrent expenditure would be MK2,268,000.¹⁰ STA total costs over this period, including capital assets, planting materials, and fertilizer but excluding payments to growers and government subvention, were estimated at MK7,366,000, and payments to growers, net of capital cess at MK9,389,000. Thus the government subsidy amounted to approximately 50 percent of the total expenditure.¹¹

By mid-1972, 1,831 acres (some 740 ha) had been established in the south and 116 acres (47 ha) in the north. A second phase

loan of £866,000 was arranged with CDC to establish an additional 4,150 acres (approximately 1680 ha: 1,330 ha in the south and 350 ha in the north) between 1972 and 1978. By 1978 there were 1,900 ha (about 4,700 acres) under smallholder tea in the south, but achievements in the north were minimal. This discrepancy occurred even though in the early phases of the scheme it had been thought there was more potential in the north because of the greater land availability; in the south, the density of population and consequent small average cultivated area per holding was thought to allow for little potential to set aside land for tea from food-crop production.

A number of appraisals and evaluations in the mid-1970s made it clear that the STA was only marginally economically viable, even with substantial government subsidy and foreign aid. A review of Phases II and III by CDC noted that the scheme had fallen behind its acreage and output targets, and that costs of planting material were greater than estimated, largely because of poor outturns from the nurseries (CDC 1977). Extra funds would be required to complete Phase II; the appointment of a specialist nurseries officer to improve nursery performance was welcomed. Provided other funds continued to be put into the scheme and CDC felt its loans were secure, it was prepared to continue its funding of the scheme (Smith, interview, 11/12/85).

The third phase (1978-1984) was expected to establish a further 1,340 ha to bring the total area under smallholder tea in the south to 3,240 ha (8,000 acres) by 1984. The northern part of the project was hived off, and it will feature only marginally in this account. By 1982, only 56 percent of the planting target for that year of the Phase III had been achieved, and total output was nearly 30 percent below the estimate for the established smallholder tea areas.

Due to this failure to achieve either acreage or yield targets, and to the decline in the world price of tea at this time, the STA was in a financial crisis and unable from its own revenues to begin repayments to CDC while paying smallholders the previous price for their tea. The Malawi Government, also facing a financial crisis, was finding it difficult to meet its financial obligations to CDC. A mission from CDC in 1982 to appraise a second factory was converted into a Reappraisal Mission. The Mission included representatives from CDC and two members of the Malawi Tea Association, both of whom had been associated closely with the scheme as members of its board and committees. The Mission recommended, among other things, a halt to further expansion and the use of tea planting material already in the nurseries for consolidation and infilling existing tea. It also recommended or confirmed other rationalisations already initiated by STA (for example, halting the supply of fertilizers for tea on seasonal credit).

A number of policy and practice changes took place over the next few years, after considerable debate and maneuvering. These included the adoption of a coarser "two and three-and-a-bud" standard for picking tea in place of the former strict "two-and-a-bud" standard, the resumption of supplying fertilizer with seasonal credit, and the selling of smallholder leaf from distant plots to nearby commercial factories rather than transporting it to the smallholder factory. The world price of tea increased substantially in late 1982 and early 1983, and the scheme's finances temporarily became better than ever before. After discussion by the STA Board and pressure from growers through local politicians, substantial increases in payments to growers were made in the 1983/84 and 1984/85 seasons. Output, which had been nearly 30 percent below targets from 1981/82 to 1983/84 improved to a 10 percent deficit in 1984/85 and a 10 percent surplus in 1985/86. The world price of tea fell again in 1985 and the finances of the STA will only allow a much reduced payment to growers in 1985/86 even though the greater throughput will cushion the fall in the unit price somewhat. The response of growers in terms of output and politics remains to be seen.

The Smallholder Tea Scheme in Malawi is, then, neither an obvious success nor failure; it staggers along. In the meantime the estate sector, taking one year with another, has been highly successful, made significant profits for its shareholders, and allowed some of them to diversify both agriculturally and into other sectors of the economy; and it has made significant tax payments. To what can the different performance of the two institutions be ascribed?

Several hypotheses will arise in the account that follows. First, was the scheme always ecologically and economically marginal? This may be the case, but the recent improvement in yields and the substantial gap between estate and smallholder yields indicates that this is far from conclusively decided. Furthermore, how is the success of the estate sector to be explained? Could the performance of the scheme have been improved by the adoption of more appropriate practices and policies, if necessary for minimising losses? If the most appropriate policies were not adopted, why was this? Was it that the technology adopted was not the best practice, or were there organisational features that accounted for poor performance? Were inadequacies of the STA, or the opportunism of growers in any way responsible? If the STA was deficient, was this an unavoidable consequence of its parastatal nature, lacking the market discipline of a commercial enterprise, or were there avoidable lacunae in the performance of its functions? If the latter, why were these not corrected? Was it because of lack of knowledge or motivation on the part of those responsible, or because of interference by representatives of the plantation sector, as has been suggested for Kenya?

The issue of the quality of management raises specific questions about the the Board of STA, which is in some sense responsible for the project, about CDC as represented on the STA Board by right, and about the project's "bankers," who undertook a number of feasibility and evaluation studies. Given that the Government of Malawi guaranteed repayment of the loans, CDC should be understood as a debt holder rather than an equity holder in the project, and it did not appoint the management of the scheme. Given CDC's reputation, however, there can be little doubt that the government relied on its technical and financial expertise for an appropriate judgement of the viability of the scheme.

1.2 Relevance for Contract Farming

What light can this case throw on the issues raised by contract farming? Is tea not a suitable crop for a smallholder contract farming scheme, except in the unique circumstances of Kenya? Or could a better institutional arrangement have been devised? If, as I argue, some of the deficiencies stem from a lack of accountability by the STA, two alternative structures for the Authority could be considered. One alternative is to give growers greater representation on the STA Board. The other is to organise smallholders as outgrowers for existing estates, with a role for a smaller STA in devising appropriate contractual forms, arbitrating disputes between smallholder outgrowers and plantations, and perhaps devising and giving advice on appropriate technology and techniques for smallholders. Both suggestions encounter objections. In the first case, it is argued that there are no suitably qualified growers to take over the responsibilities exercised by more expert members of the Board. In the second case, no estates have been willing to develop smallholder outgrowers, and, indeed, the experience of European estate outgrowers was not happy. The plantations prefer, or are more competitive with, wage labour. Both objections are debatable, but a sensible discussion of the issues requires careful examination of the incentives faced by the STA, growers, labour, and plantations, as well as the technical characteristics of tea production and marketing.

The relationship of the smallholder tea grower to the STA has many of the aspects of contract farming, in that the grower must sell his product (green leaf) to the Authority and is supposed to follow the agronomic practices laid down by the Authority. Failure to follow these practices can lead to withdrawal of permission to grow tea, and to transfer of the land to another person.¹² Apart from variations in the weather, and perhaps variations among areas in soil type and other ecological variables, tea yield should not vary if smallholders comply with the terms of their "contracts" or the advice they are offered. The dramatic turnaround in yields between 1982 and 1986, which

can be partly attributed to the resumption of fertilizer supplies, may also reflect opportunistic behaviour by smallholders--i.e., not doing as they are told, but responding to short-term economic incentives.

The general question raised is to what extent has the poor performance of the scheme been due to opportunistic behaviour by the growers, and to what extent has it been due to the inadequacy of the technology, extension, planting material, and so on provided by the Authority? If the latter plays some part, was this due to "utility maximisation" by STA Staff--taking some of the resources of the scheme for activities that were of personal satisfaction but detrimental to the scheme--or to mistaken ideas or ignorance of the most appropriate practices, or both?

The viability of a contract farming scheme can be undermined by opportunistic behaviour of farmers, and/or by the lack of, or failure to implement, a suitably profitable technology and management structure. The role of each in any particular case is usually the subject of considerable controversy, since the definition of what is opportunistic behaviour and what is a failure on the part of the contractee has implications for the distribution of benefits, as well as for the allocation of blame. The largely empirical issue of deciding the facts of the matter is often extremely difficult and forms a significant part of this study. For example, in order to decide whether a particular grower is acting in an unreasonably opportunistic manner, it is certainly not sufficient to observe that the appropriate results are not being achieved, since this may be due to the variability of nature (soils, pests and diseases, microclimatic variations), or other factors beyond the control of the contractor, such as the quality of the planting material supplied. Nor, in general, would it be sufficient to observe that the grower was not following the terms of the contract or the advice of the extension worker, since for similar reasons it may not be appropriate to follow these practices in a particular case. For example, mulch should be applied to young tea to conserve moisture and build soil fertility, but without special provision (estates now grow mulch to apply to young tea), finding and transporting the material can require so much labour as to be impractical.

The issue is not restricted to contract farming in its strict sense. Much of the debate about development projects concerns the role of these two factors: thus project managers, extension workers, and others tend to argue that growers or farmers act in an uneconomic way, while critics defend the rationality of farmers' behaviour. In schemes with an element of contracting, the issue is obviously clouded by the question of what constitutes rational economic behaviour; this follows because "myopically" rational, or opportunistic, behaviour differs from the fully rational. Furthermore, the behaviour of

the contractee cannot be assumed to be simple profit maximisation. On the other hand, a commercial enterprise or parastatal may act monopsonistically, especially if it has the backing of the state to reinforce the monopsony power that may be conferred by a contract.

The behaviour of a noncommercial enterprise such as the STA is particularly problematic because it is unlikely to be subject to the same tests of viability that it is reasonable to assume exist in the case of commercial enterprises. The STA is supposed to maintain financial viability, albeit with less than commercial interest rates, and with considerable aid from both the Government of Malawi and the United Kingdom. Nevertheless, although the STA is not subject to quite the same commercial pressures as a firm, it is subject to other pressures. It resembles a large number of similar public sector organisations and is not very different from regulated private organisations or from private organisations with public involvement.¹³ The STA provides an example of the influence of the state. Its behaviour will depend on the goals and constraints of the actors who comprise it, on its structure, and on the combined economic, social, and political pressures to which it is subject.

The coexistence of the STA with plantations provides an opportunity to compare the different institutions in terms of outcomes (productivity, distribution, and social relations), processes, and origins. And, since these institutions are to some extent in competition, the analysis must pay attention to their interaction. The recent innovation of a labour payment system on some plantations provides further material for analysis and explanation.

It is unlikely that the problems of the scheme can be reduced to the manipulation by prominent Board members or to the particular views or interests of senior STA staff alone. The outcomes of the processes of administration and response are also conditioned by the understandings and ideas of different actors about, for example, the growing of tea and the behaviour of growers, the way to manage a scheme of this type, and so on, and also to such accidents of history as the independent rise and fall of world tea prices or the occurrence of good and bad growing seasons. Our understanding of these things is necessarily limited, and the presentation must be to some extent a choice by the author, conditioned by his goals and resources. It is also an intervention in the debate, a possible influence on the course of events: peoples' interests may be affected. I realise that many sources have remained untapped and many issues are discussed without adequate evidence. This text should, therefore, be used with caution.

1.3 Outline of the Study.

In the next section (Section 2) I discuss some of the main technical characteristics of tea as a crop, and the behavioural and economic factors that help determine the institutional form that its production takes, or affect the performance of different institutional forms of production. The conventional account of the determinants of institutional form and performance needs to be supplemented with an awareness of the political factors, the strategies of various actors, and the historical specificity of the case.

Section 3 describes the development of the colonial economy and of the tea industry in Nyasaland and then Malawi, as a background to the structures and forces existing when the smallholder tea scheme was initiated. In Section 4 I discuss the origins of African tea growing in Nyasaland and forces that affected the early development of the scheme, which seems to have been initiated around 1955 by the Department of Agriculture (DOA) as part of the development activities initiated after World War II. The tea idea was blocked for a time by opposition from the Nyasaland Tea Association (NTA, later the Malawi Tea Association --MTA), until the inevitability of independence and its implications became clear.

Having accepted the inevitability of a smallholder tea scheme, the NTA agreed to participate in it, and through representation on the Board of the STA was in a position to influence its policies. Officials thought that the cooperation of estates was necessary in order to avoid the initial overhead expense involved in establishing a factory and in securing access to and use of estate roads. This gave the estate companies a powerful influence on the policies of the STA, exercised in part through their membership of the Board. In the main, however, the policies adopted reflected the best practices as perceived by officials charged with developing or overseeing policy, and where there was disagreement, it seems officials were usually able to get their way. In particular I will argue that the issues of the appropriate plucking standard, the type of planting material, and the policy with regard to construction of factory capacity to process smallholder leaf, which with hindsight may be seen as faulty, were decided by officials on the grounds that they were most likely to succeed, rather than by tea plantation interests. Thus there is more to this case than the relationship between estates and smallholders that produce the same crop and have interests that at least in part compete. It has relevance to situations where agronomic practices and institutional arrangements are determined at least in part by outsiders, whether companies, government extension agents, or parastatals.

Section 5 continues the history of the scheme, while in Section 6 I try to account for the poor performance of the scheme

and the response of growers and management to the evolution of events. After exceeding targets for yield in the first few years, the scheme gradually fell behind both yield and acreage targets, and in the late 1970s ran into financial difficulties. Although there was criticism of management performance, the main agronomic policies were continued until around 1983, after which a number of innovations were made, and, arguably partly as a result the scheme performance improved. The reason for the continuation of unsatisfactory management practices and extension advice after the problems first emerged was in part the failure of management and its advisors to realise that the returns to growers were inadequate. The poor quality of planting material issued by the STA and the inadequacy of the technology for successfully establishing the tea on soils that had been eroded and had lost much of their fertility through previous cropping smallholder with annual crops were largely responsible for the low yields, but the management concentrated on the issue of unsatisfactory growers and the lack of means to discipline or replace them.

In the concluding section I discuss some of the debate surrounding the policies adopted by the Kenya Tea Development Authority, which served to some extent as a model for the STA. I argue that some of the accounts give insufficient weight to the role of "official (development) thinking" in the determination of KTDA structure and policy.

The discussion is selective; the orientation throughout is to addressing the following main issue, which has some relevance for other contract farming schemes. Was the poor productivity and financial performance of the scheme due to "shirking" by growers, to poor management by the STA (failure to perform its own functions, especially to supply good quality plants or to recommend better known agronomic practices), to the inherent non-viability of the scheme (without even larger subsidies) given the marginal ecological conditions for tea, or to the inherent disadvantages of the smallholder institutional form? While there may have been many problems of poor management, the key question is whether or not better decisions could have been made and if so, why they were not. Here the context of official thinking and the lack of readily perceived alternatives were crucial in the conservatism of the project and in the toleration of questionable management. Whether greater grower representation on the board would have altered matters, or whether a more enlightened management, with greater willingness to believe in its own fallibility and to allow for grower interests, could have achieved more, or would have been permitted to, are also open questions. Material and economic factors undoubtedly affect institutional form and performance, as argued by the "relations of production" and "institutional innovation" theorists. But the evolution of these forms and their performance over time is affected also by knowledge about their implications and by

bargaining and negotiation over the distribution of gains, a process of imperfect institutional action.

2. The Relations of Production of Tea

2.1 Economies of Scale in Factory Processing

It is a common view that "only through the large scale plantation system of cultivation can this crop be most economically cultivated" (Sarkar, 1972:9).¹⁴ This view is based largely on the economies of scale in manufacturing black tea and the consequent "minimum economic size of factory". These, together with a long gestation period, imply high capital requirements, high transport costs, and the need to coordinate harvesting with manufacture, suggesting that efficiency demands a vertically integrated structure, which can be achieved by either plantations or contract farming (Binswanger and Rozenzweig, 1986). This emphasis on the implications of economies of scale in factory processing, arguably imposed by the mass market for black tea,¹⁵ needs to be augmented by an appreciation of the implications of the labour processes of raw material production-- in this case, green leaf for processing.

2.2 The Economics of Plucking

The plucking of tea requires a large amount of labour.¹⁶ Unskilled labour comprised 20 to 40 percent of f.o.b. estate production costs in Malawi in the 1970s, and about 0.3 man-equivalent days were employed per kilogramme of made tea. Tea is harvested (plucked) at fairly regular intervals (the plucking round length), as the young shoots, which rise above the surface of the bushes, reach a certain size range (the plucking standard).¹⁷ For ease of identification and selection, the surface of the bushes is maintained fairly flat (the plucking table). Recent developments in understanding the determinants of tea yield and its value in relation to plucking techniques, and of the costs of plucking have allowed a degree of quantification of the economic optimum (Palmer-Jones, 1987). This requires selective plucking of shoots in a certain size range, leaving smaller shoots, breaking back shoots that have grown to a larger size than is suitable for manufacture, and other "table maintenance" labour activities. There is, therefore, a quality problem, with attendant monitoring and supervision problems concerning both the size of shoots and the state of the bushes left for the next plucking round.

2.2.1 Gross Returns from Plucking

Yield and quality are largely determined by the plucking standard employed, but plucking costs are determined both by the plucking standard and the plucking round length (the interval between one plucking of an area and the next). The plucking

standard is defined in terms of the maximum and minimum sizes of shoots that are acceptable, and these are largely defined in terms of the number of leaves and bud on a shoot. A fine standard generally means that a maximum of two leaves and bud is acceptable, while a coarse standard refers to any standard that allows more than two leaves per shoot. Other components of the plucking standard are the amounts and number of leaves per shoot of "banjhi" or dormant shoots, and the amount of broken and coarse or otherwise unacceptable leaves and trash. It is generally accepted that the quality of the made tea and its price decrease as the standard gets coarser, but that yield increases as the standard gets coarser, at least from a one-and-a-bud standard to a two-and-a-bud standard. However, as we will see later, it is not universally accepted that the same applies to the two- to three-and-a-bud transition. As the standard becomes coarser, gross revenue at first increases, because the increase in yield outweighs the deterioration in quality, but after a certain point decreasing returns sets in.

2.2.2 Plucking Costs

Plucking costs depend on the way labour is paid, but underlying the determination of plucking costs is the amount of time taken per unit weight, or the net value of output. The amount of time per shoot plucked does not generally vary with the size of shoot, but it decreases quite strongly as the number of shoots per unit area increases: the greater the number the less time required, and hence, at any rate of pay per unit time, the lower the cost. Also, the coarser the standard, the lower the rate of pay can be per unit weight to give the same return per unit effort. Generally speaking, the longer the plucking-round interval, the more shoots of pluckable size there are, but, for longer rounds, the proportion that exceeds the maximum acceptable size increases and more time has to be spent "breaking back". Thus, as the standard becomes coarser or the round length increases, plucking costs fall, or, at a given rate of pay per unit green leaf, earnings per picker per day increase. Beyond a certain point, however, the increasing amount of time that has to be spent "breaking back" offsets the decrease in time required for plucking. This tendency of breaking back to increase on longer rounds can be partially offset by plucking smaller shoots, to prevent them coming to pluckable size at the next round, but this reduces yield, and increases plucking time because it requires the pluckers to search out and pluck very small shoots.

The optimum plucking system--combination of plucking standard and plucking round length--is determined by the interaction of the gross revenue and plucking cost effects (see Palmer-Jones, 1987).

2.2.3 Payment Systems and the Economics of Plucking

Time-paid wage labour is likely to shirk on effort--number of shoots plucked per unit time--but not quality--plucking standard and table maintenance; such pluckers will have to be supervised on quantity. These supervision costs may be partially overcome by paying a piece rate, i.e., per unit weight. Piece-rate paid labour, however, may shirk on the two quality variables, and will need to be supervised on both the plucking standard and the maintenance of the plucking table. Monitoring the proportion of large shoots plucked and the plucking-table maintenance is relatively straightforward; it is much more difficult to prevent pluckers from taking very small shoots that should be left behind to grow to an acceptable size by the next plucking round.

2.2.4 Programmed Scheme Plucking

Pluckers normally have worked in large gangs that are kept together in a limited area for ease of supervision, but are allowed to roam at random within this area. Thus they are unlikely to return to the same area at each round, and if they pluck small shoots or fail to maintain the table they do not pay the penalty at the next round. When they are paid per unit weight, the optimal plucking strategy from the pluckers' point of view is to pluck small shoots and to undertake table maintenance without regard to the potential value of having larger shoots or better table at the next round. To abstain from doing so gives the pluckers no direct return (and breaking back takes time), and dilutes the indirect return at the next plucking round because of the low probability of their returning to the same spot at the next round, i.e., by at most the reciprocal of the number of the pluckers in the gang (usually over 30). They will also try to pluck shoots as large as they can get away with, because this gives them a higher rate of green leaf accumulation and avoids breaking back.

In the new system, pluckers are still paid per unit weight, which provides an incentive to effort, but instead of roaming randomly they are allocated plots to which they return at each successive plucking round. Consequently, failure to maintain the plucking table harms their plucking rate, and if they pluck undesirably small shoots they are the ones to suffer at the next plucking round from the lower proportion of large shoots.¹⁰ Pluckers still have to be supervised to prevent plucking of shoots larger than are acceptable, but this involves less work than supervising gang plucking, and results in greater yield and such other advantages as a better response to other inputs, including fertilizer. The schedule of each plucker is programmed by allocating specified plots to be plucked each day, so that the estate maintains a plucking round. The plucker, however, is free to pluck when and at what rate he prefers, provided only that the

specified plots are plucked. This gives the plucker a degree of flexibility over time allocation that, together with the opportunity to use "helpers" (usually family members), is valued for all the reasons that flextime is valued elsewhere.¹⁹ The system also allows a potentially greater rate of return per unit time for the plucker, provided the rate of payment per unit weight is not reduced and the plucking standard, round length, and general availability of leaf are maintained.²⁰

This system provides considerable potential advantages, both to the estate, which can increase yields without raising per unit green leaf costs, and to pluckers, although it is only likely to be advantageous from their point of view if their incomes rise substantially, since greater effort is required to take responsibility for the quality monitoring. The attachment of a plucker to a plot²¹ approaches a tenancy arrangement, where yield output is shared between plucker and estate. Quality and price variation are not shared, however, since the plucker is paid a fixed rate per unit green leaf; consequently quality supervision is still necessary. If pluckers were paid at a rate that varied with the price received for the estate's tea, there would be some quality incentive, although it would be diluted over all pluckers, and be contingent on factory operation. It would also entail pluckers' bearing market price risks. A further elaboration of the system would be to allow pluckers to take responsibility for weeding or pruning on their plots, to give them an incentive to weed and prune properly. Management would probably retain control over fertilizer levels, pruning policies, and so on, on grounds of greater competence and a longer time incentive structure, but it is clear that it is possible to consider a range of institutional forms for tea production between an estate run with wage labour and paid management integrated around a factory at one extreme, and, at the other, smallholder production, with either minimal control and decision making by the factory, or selling leaf on a market unconstrained by contractual terms.

2.3 Social Forms of Tea Production

While the plantation is the paradigm for tea production, tea is in fact widely grown by smallholders: in China all tea is grown by smallholders, and in Indonesia, Sri Lanka, and South India smallholders and estates coexist. In Africa tea was almost exclusively a plantation crop until the 1950s; since then smallholders, mainly in Kenya, but also in Malawi, Tanzania, Uganda, and Southern Africa have come to supply nearly half of a much expanded total output. Within the broad category of plantation/estate, actual organisation differs considerably, particularly with regard to the recruitment and payment of labour.

This pattern of differing institutional forms negates a simple technical determinism of the type which asserts that the nature of the crop determines the form of organisation that produces it. The pattern remains to be explained. Among the factors that a technical determinism leaves out are differences in the distribution and definition of control of productive assets, the nature of the input and output markets, and the roles of environment, knowledge, politics, culture, and the state. For example, in the production of black tea the high cost of labour, mainly for harvesting, immediately suggests one possible advantage of smallholdings, namely, the possibility of an organisational form under which green leaf might be supplied at lower cost because of lower labour costs, and/or more appropriate incentives to labour, than is provided by a plantation with wage labour. In particular, technical determinism does not throw much light on cases where land is owned by labour rather than capital.

Thus, in a more complex view of "the principal behavioural and technicological factors which determine production relations" Binswanger and Rozenzweig (1986:534) suggest that crops such as tea lend themselves either to contract or plantation modes, and that (in labour-abundant economies), "(W)here large plots of land could historically be acquired, plantations predominate" (ibid.:529). While perhaps some support for this idea derives from the fact that in both Kenya and Malawi plantation tea production was followed by smallholder production, around the time that land acquisition became impossible, this view leaves out as much as it illuminates. In particular, it leaves out the effect of different (relative) factor endowments, which are central to the explanation that Hayami and Ruttan offer for the direction of technical and institutional change.²² This view of technical and institutional change has been described as the theory of "imperfect institutional innovation" (de Janvry 1973), which raises questions about the politics of land acquisition, labour supply, and so on.

Also, the expositions of both Binswanger and Rosenzweig and Hayami and Ruttan leave out the possibility that supervision and monitoring costs may be variables that can be partly endogenous, insofar as they are determined by the distribution of income deriving from an institution or from the outcome of bargaining. Thus an institution, such as a plantation with wage labour, may have lower supervision costs if its owners or managers are seen as cooperative and helpful rather than exploitive, if they pay higher rather than minimum wages, if they provide health and educational services for their employees, or if they have career structures that recruit from their (unskilled) labour force. On the other hand, a highly repressive state may facilitate a certain type of labour discipline, but is likely to engender more covert forms of resistance. Outgrower schemes may find it easier to overcome contractual and free rider problems if they are able to provide substantial increases in income or welfare, even

though it is sometimes stated that an advantage of outgrowers is that welfare arrangements, which have come to be associated with plantations, can be avoided. A highly authoritarian structure and style is likely to encourage non-compliance. What is required is an explanation that encompasses not only the technical and ecological factors, but also the economic, social, political, and cultural dimensions, and the conjunctural bargaining situations that are crucial to the historical evolution of projects and sectors.

In fact, a wide range of contractual arrangements for tea production exist, both under the broad definition of plantation and among smallholdings, and these are constantly evolving. Plantations in different continents and at different times employ different methods of recruiting and paying labour; contracts with smallholders and outgrowers have different forms and structures. The typical estate may employ resident wage labour for most tasks, but there are others that employ local village labourers who also farm. In Kenya and Malawi the estate sectors have or are innovating the "scheme plucking" described below. Smallholder tea production in China is apparently unsupervised and the tea is locally manufactured on a small scale; the Kenya and Malawi schemes are intensively supervised and attempt to institute rigid contractual terms not only for plucking standards but also for the quality of planting materials, fertilizer levels, pruning practices, and weeding standards. In South India "leaf contracts" probably entail only the quality of the leaf. A superficial reading of the readily available literature on tea does not reveal enough detail about the contractual terms employed, but the case material on tea in Malawi reveals the complexity of factors involved in the evolution and performance of production relations for tea.

3. Development of the Colonial Economy in Nyasaland

Economic, social, and political developments in Nyasaland in the colonial period have not received the same depth and range of historical study as in Kenya.²³ Nevertheless, the broad trajectory has been established, even if developments more specific to the smallholder tea growing areas have to be inferred.

Like much of colonial Africa, the area that became Nyasaland suffered a succession of disruptions and disasters toward the end of the 19th century (Vail, 1982). The invasion by Ngoni people emanating from the disruptions in South Africa gave rise to wars throughout the region, and the spread of mercantile capitalism from the east coast of Africa in the form of trade in slaves, ivory, cloth, beads, guns and gun powder" (ibid.:3-6) resulted in a thinly distributed population, concentrated in stockaded hilltops, vulnerable to famine. In the 1890s the area was suffering "a plague of debilitating sand jiggers, the rinderpest

epizootic, red locusts, drought and an epidemic of smallpox all occurring in devastating succession and greatly undermining an African economy already disrupted by decades of insecurity" (ibid.:9).

Missions were established in the second half of the 19th century, while traders and then planters began arriving in increasing numbers toward its end. A British Protectorate was established, and Harry Johnston, the first Commissioner and Consul-General, arrived in 1891. Johnston rejected the expansion of peasant production for export as a source of revenue to pay for the administration in the light of its debilitated state, which was characterised as "shifting cultivation. . . a 'heedless system, ruinous to the future interests of the country'. . . a 'vicious wanton policy' " (ibid.:9). Instead, European estates were favoured. Further considerations were, apparently, the very high cost of transport to external markets, which necessitated high value crops, and declining world prices of such crops as groundnuts, which were seen as suitable for peasants. Vast areas in the southern highlands (the Shire Highlands), areas far greater than were required for cultivation, were alienated to a few companies "because a large number of people resided on the land and would hence be liable to pay rent" (Vail 1982:10). Labour rent, initially set at 30 days per hut per year, was paid by these "tenants," while natives on Crown Land were subject to hut tax, which would have to be found mainly by labouring for Europeans as porters or estate labour. Labour migration to Southern Rhodesia and South Africa started even before the imposition of the hut tax (Vail ibid.:12), but this deprived the nascent plantation sector of labour. A successful campaign was waged to ban such migration, although it continued unofficially. Migration out of Nyasaland, and later Malawi, has been alternately allowed and banned in response to economic opportunity and political exigency. When the power of estates and plantations has risen they have usually been able to restrict migration and increase their own labour supplies, but when their fortunes have waned, pressure for access to higher income-earning opportunities in the south, and pressure from the south for access to cheaper labour has succeeded (see also Palmer 1985; McCracken 1984).

3.1 Growth of the Tea Industry

The first tea estates were started in Mlanje (now Mulanje) District around 1886, and by 1920 some 2,600 acres had been established. In the 1920s and early 1930s the acreage planted expanded rapidly. Planters in Cholo District, who had been through coffee, cotton, and tobacco, turned to tea in the late 1920s following the collapse of tobacco prices (Palmer 1985:218). New planting was restricted after 1934 by Nyasaland's accession to the International Tea Restriction Agreement. Until 1944, new planting was limited more or less to allowing planters who had

already started to complete "economic acreages". In the next period of the agreement this policy was augmented by allowing some estate owners, mainly in Cholo, to start tea planting "provided they already owned tea within the existing tea belts" (Palmer 1985:229); nevertheless, the area under tea expanded from about 15,400 acres in 1934 to about 25,400 in 1948, when Nyasaland was excluded from the Agreement. (See Table 3.)

Palmer argues that in Nyasaland the tea industry was more successful than in Kenya in gaining permission to expand tea acreages because of its better organisation, which included a London committee to lobby on its behalf. Another factor was that the dominant plantation interests in Kenya were Brooke-Bond and James Finlay, both of whom had substantial South Asian tea interests and therefore stood to gain more by restrictions than the smaller, more recently established firms in Africa. The Nyasaland Tea Association was formed in the late 1920s. From the start it was led by (later Sir) Malcom Barrow, a prominent settler who was planting tea in Cholo District. Barrow continued to be a powerful force in the NTA and, later, in the Malawi Tea Association; he became a minister in the Federation of Nyasaland and Rhodesia.

While most of the tea was planted by companies with substantial capital who erected their own factories, many settlers could only afford to plant smaller acreages and could not afford to erect factories. As a consequence, they had to sell their leaf to the larger companies. This was a constant source of complaint. The smaller companies felt exploited by the monopsonistic behaviour of the larger companies, who exhibited a "take it or leave it attitude" to green leaf sellers. Palmer notes "the situation in Kenya at this time, when Brooke Bond and James Finlay were quite happy 'to contract to purchase green leaf from smaller settlers'" (Palmer 1985:230).

Labour was largely supplied by recent migrants who flooded into the southern highlands, fleeing from Portuguese oppression in Mozambique (Palmer 1985; Vail and White 1980). Some labour was housed on estates, but in Cholo much of the labour on the tea estates was recruited by the Thangata system of labour rent; in Mlanje, where there was more Crown land, it was drawn from peasant agriculture. The term Thangata refers to the system of redistribution and reciprocity between chiefs and their followers, part of which entailed sanctioning the right to land within the chief's jurisdiction in return for loyalty to his authority (Kandwire 1979; Pachai 1974). The system was supposed to be regulated by such legislation as the Natives on Private Estates Ordinance, but resentment against the practice contributed to both the Chilembwe uprising in 1915 and the Cholo riots of 1953 (Palmer 1986).

Table 3.

Acreage, Output and Exports of Tea from Nyasaland and Malawi

Year	Hectarage under tea (ha)	Exports (kg)	Value of exports £	Average Price	
				d per lb.	p. per kg
1905	105	717	40	5.95	
1910	210	7,256	907	6.00	
1915	1,337	73,888	4,155	6.00	
1920	1,960	356,395	33,480	10.02	
1925	2,061	470,446	57,046	12.93	
1930	2,383	780,186	74,383	10.17	
1935	6,240	2,055,160	171,470	8.90	
1940	7,183	5,060,041	379,502	8.00	
1945	7,932	5,547,962	586,638	11.28	
1950	9,174	5,675,534	1,170,578	22.00	
1955	10,010	7,636,678	2,727,600	38.10	
1960	11,367	10,493,025	2,842,559	28.90	
1965	13,234	11,899,600	3,338,000	29.92	37.40
1970	15,220	17,351,778	10,915,856 ^a		35.70
1975	15,913	23,664,044	21,134,606		57.29
1980	17,890	31,336,000			77.52
1984	18,592	33,920,000			229.24

^a Malawi Kwacha replaced Stg£ as the official currency at the rate of MK2 = Stg£1.

The bulk of the labour was employed in unskilled occupations, mainly plucking, weeding, and planting, but there were a number of more skilled positions in factories, as supervisors, clerks, mechanics, and builders, and as servants of Europeans, that allowed some accumulation. Skilled, managerial, and accounting labour was performed by European and latterly Asian expatriates. Figures on employment in the tea industry are difficult to arrive at because of high rates of "absenteeism" and turnover of labour. In 1951 it was estimated that nearly 30,000 adult African males out of a population of over 60,000 in Mlanje and Cholo Districts were employed in the tea industry, and fewer than 10,000 in other paid employment (Mss.Afr.s.997). According to the annual survey of tea plantations carried out on behalf of the Malawi Tea Association by their accountants, the figure of average numbers of adult men employed had fallen to nearly 24,000 in 1965; by 1984 it had risen only to 30,000, despite the substantial increase in total output over the period. This had largely been achieved, according to this report, by increased productivity of labour, since the average number of days worked per adult male is given as 290 per year in both years. It had not been taken up by increases in the numbers of women and children employed (recorded as 8,500 in 1965 and 7,700 in 1984), although casual observation reveals that more women are employed on a regular basis than were previously, and that they are doing tasks formerly restricted mainly to men--for example, plucking. The average number of days for female and juvenile labour is given as 290 in 1965 and 214 in 1984.

While the bulk of the African population was employed as labour on European estates, simultaneously with the development of the white-owned and settler estates in the Southern Highlands came the growth of an African educated and commercial class, a result of mission education and employment in firms and government. Some Crown-land African farmers responded to the expanding opportunities to produce for the export and internal markets. Some Africans purchased land. Cotton, and then tobacco, were grown for export, as were foodstuffs for the growing estate labour force. There were opportunities in internal trade and in small-scale manufacture (such as bricks and carpentry). No doubt some differentiation within the African population took place, although this is not yet well documented.

A number of African associations were founded. There was conflict with settlers, over access to and terms of participation in economic opportunities, as, for example, in the growing tobacco industry in the Central Province (McCracken 1984).

As pointed out above, the type of economic and political history of Nyasaland in the colonial period that would be required to enumerate the forces at work, has not been written.²⁴ Nevertheless, it is possible to infer something from the evidence that has been presented and by drawing parallels with the better-

documented case of East Africa. At the same time that Mau Mau got under way in Kenya there were disturbances in Nyasaland; thus, as Palmer points out:

At the end of the second World War many parts of Africa were seething with unrest. . . . The Cholo district . . . was no exception. Some grievances there related specifically to conditions and wages on the tea estates, others to the wider land question and the enforcement of new agricultural regulations, while others again were basically political in origin (Palmer 1986:121).

Besides the "classic problems of European land appropriation, [and] plantation labour grievances" (Chanock 1975:236), to which one should add the enforcement of agricultural regulations, fear of further immigration by whites, and opposition to the proposed Federation of Nyasaland and the Rhodesias, Africans demanded better access to education, employment, and markets.²⁵ The Nationalist movement was comprised not only of clerks, pastors, and teachers, but also those who "tried to make themselves independent in the secular sphere by attempting to set up as traders or by taking advantage of the opportunities that existed for cash cropping" (Chanock 1975:236). While I have no evidence on the activities of members of associations in the tea areas, nor of their economic status, there was considerable migration from these areas that could readily be substituted with cash cropping were this opportunity available.²⁶ A considerable trade in provisions for the plantation wage labour force probably built up despite the predominance of labour being drawn from households that grew much of their own subsistence supplies. There have long been large Christian missions with hospitals at Malamulo, in the heart of the Cholo tea area, and at Nalipiri, on the edge of the Mlanje tea estates. These gave rise to educated Africans, who were among the first smallholder tea planters in both districts, often on land returned from the mission or neighbouring estates. Some of these people have become politically active in the Malawi Congress Party, and have a number of business interests, such as wholesaling, transport, and construction, in addition to smallholder tea (interviews in October 1986).

Some evidently succeeded in accumulating, and not only in the Central Province. A witness to the Advisory Committee on the Review of the Constitution of Rhodesia and Nyasaland in 1960 stated:

Two years ago I sold part of my land [in Cholo District], 11 acres to an Indian store keeper, 234 acres to one African and 62 and 22 acres to two others. They are all growing food crops, the owner of the largest section has a store, a maize mill, and has bought a tractor and a lorry. (Evidence of Miss H. H. Glover)

In 1962 apparently 97 Africans were employed in the tea industry as "executive and office staff" (Peat, Marwick, and Mitchell 1968). From a slightly later date, the evidence of the Census of 1966 and the National Sample Survey of Agriculture (NSSA) also indicates considerable numbers of better-off Malawians. According to the 1966 Census 18,838 and 14,745 Africans, from Cholo and Mlanje Districts, respectively, aged 10 years and over, worked for 12 months for wages or salaries (i.e., who were unlikely to be unskilled labour on estates, where most labour was laid off on a seasonal basis), while 12,074 and 20,460 in the two districts had other sources of cash income besides wage or salary or their own farming. More than 1,390, and 6,990 farmers in these two districts, respectively, had more than six acres 1968-69, and more than 1,000 farmers in each district received a cash income greater than sh 2,000 (NSSA 1968-69).

A more disaggregated view of the process of African accumulation is required, if we are to trace the political pressures underlying the initiation of the smallholder tea scheme and the way in which it was shaped from the African side. It is noteworthy that, unlike in Kenya, there seems to have been no prior growing of tea by Africans in Malawi, or records of pressure by Africans to grow cash crops other than tobacco. Nor, when the issue is raised, is there any reference to Africans applying to grow tea. Finally, it is not mentioned in the responses to the Cholo riots or to any action other than the speeding up of the purchase of "unused" land from European estates, on which to settle Africans--which Palmer sees as "buying time" for the plantations (Palmer 1986:126). The lack of written evidence, however, does not mean that the possibility of participation in the tea industry other than as employees was not on the minds of many Africans. At least one agricultural officer reported discussing the possibility of African tea with Africans in his Regional Office in the Southern Provinces in the early 1950s (John Sandys interview, 1986).

The 1950s were a period of increasing conflict between Africans and the colonial regime, culminating in the emergency of 1959, and, soon after, the move to independence. Much of this conflict focused on the efforts of the Agricultural Department to enforce soil conservation practices in peasant agriculture (Beinart 1984a and b). There was also, as there had been for a considerable time, agitation against the fact that plantation and estate companies held large quantities of undeveloped land. By the late 1950s, in part because of rapid population growth and immigration from Portuguese East Africa, there was almost no freely available cultivatable land on which estate labourers could establish their families to produce the subsistence needs required to supplement their wages, although this had always been part of the system establishing a supply of cheap labour to the estates. After the Abrahams Report of 1946, the Government

repurchased land from estates, and estates were under pressure to make use of their land to preempt the pressure to sell. In cases where this entailed disturbing Africans who were living on estate land, the resentment no doubt was exacerbated.

As independence approached, and after, this pressure increased, and there was considerable expansion of the area under estate tea to land that would otherwise be in danger of having to be sold to the government, often in a rather hurried, ill-planned, and technically unsatisfactory manner. Evidence of poor planting practices at this time was the relatively unsatisfactory yields. The Nyasaland Tea Association took over the running of the Tea Research Stations in 1959, although the Secretary for Agriculture remained Chairman of the Tea Research Committee that had been established in the 1930s. This was partly to avoid their being incorporated into the agricultural services of the Federation and the politicisation which was feared to follow, given the hostility of Africans to the Federation.

The economic and political climate in Malawi has, however, been favourable to estates since independence. Although there has been a considerable reduction in the number of independent companies involved, through takeovers, the tea industry has prospered, enjoying modest levels of investment. Considerable technical advances have taken place, with yields rising rapidly and the prices of Malawi teas maintaining and possibly slightly improving their competitive position relative to other producers of plain teas. This has been achieved mainly through improved methods of manufacture, some investment in new machinery, and more careful management of labour and processing, together with an increasing proportion of tea being made from plants with improved genetic potential for quality. The plucking standard has, if anything, become coarser, but improvements in labour management, transport, and manufacturing have offset any tendency for quality to deteriorate. The rate of increase of tea output, from independence in 1964 to 1984 was about 5.8 percent per annum, the bulk of it coming from estate production (the increase in smallholder output--some 4.5 million kg--should be compared with the 25 million kg expansion in estate output during the period).

A major factor contributing to the continuing profitability of the tea industry has been the low level of agricultural wages.²⁷ Minimum agricultural wages have been maintained in agreement with the government through the Agricultural Employers' Association, but wages have failed to rise because of the continuing availability of labour at the minimum rates for most of the period. The halt to official labour migration overseas in the mid-1970s has no doubt contributed to this situation, but so too have continued immigration from Mozambique, the growth of population, and the absence of alternative employment opportunities--most noticeably the lack of expansion of peasant

agriculture, at least in the tea areas, where very little has been done to promote it. Even now agricultural development projects in the tea areas have had no significant impact (in part because they have not been funded). In general it seems to have been felt that the government was doing enough for African agriculture in these areas, which were already relatively developed in terms of social and economic infrastructure, through the Smallholder Tea Scheme. Priority for development has undoubtedly been given to the estate sector in the Central Region, and scarce resources for development have gone to establishing infrastructure in the traditionally less-developed areas, those outside of areas served in response to the needs of plantations and settlers in the colonial period (see, for example, Kydd 1984b).

4. The Initiation of African Grown Tea in Nyasaland

This section gives an account of the initiation of the STA, the origins and evolution of its policies, and its development and performance. It attempts to disentangle the various aspects of policy and performance, which include: those that are due to currently accepted opinion of the best way to grow tea; those that were due to opinions about the likely behaviour of African smallholders and the best way to induce them to undertake proper agricultural practices; those (if any) that were due to the influence of tea plantation companies and of foreign aid agencies; those that were due to the realities of tea production in the various ecologies of the smallholder tea growers; and those that were due to the economic and social circumstances of the smallholders, their individual characteristics, and the factor markets that they face.

The question of origins involves difficult issues of historical interpretation. For ease of presentation I begin with an account that starts when the issue of smallholder tea growing is first raised in files of the Ministry of Agriculture and Natural Resources; later it will be necessary to discuss, among other things, the earlier origins of smallholder tea growing in Kenya, which had a significant influence on and parallels with the Malawi scheme.

4.1. African Grown Tea before World War II

4.1.1 A Brief Excursion to the North

Partly in response to the depression and partly because of a desire to promote some development in the North, to offset the damage caused by the labour migration system, H. Mann visited Nkhata Bay to assess the suitability of the area for an African grown tea. The possibility was dismissed as restrictions under the International Tea Agreement were imminent (Palmer 1985:219).

4.1.2 African Tea on the Tea Research Station.

An experiment with Africans growing tea on the Tea Research Station (TRS) was tried by the Officer in Charge before World War II. The experiment lasted from 1938 to 1946, and apparently a neighbouring estate tried some of the ideas on about 1509 acres until the appointment of a new manager, who scrapped the experiment (Forbes, interview, March, 1987). In the TRS experiment, five occasional employees of the TRS were allocated two-acre plots, a house, and a vegetable garden. They planted the tea during their employment on the TRS, but after the third year, when it came into bearing, they worked full time on their plots. They received the sale value of the green leaf that the TRS received for the sale of its leaf, less a deduction for capital costs; this came to more than the piece rate for plucking (1d per 10 lbs of green leaf). The neighbouring estate divided up an area of mature tea for allocation to Africans who lived in their own houses on the periphery of the estate, and they were paid in the same way. The political sensitivity of the experiment was recognised by the Officer in Charge, as were his efforts to induce estates to make improvements in housing and sanitation for their labour forces.

In response to enquiries from Kenya about the costs of establishing a factory to process African grown tea, the Director of Agriculture for the Southern Provinces of Nyasaland wrote:

6. Over a period of four years interesting experiments were carried out on our tea research station, the results of which bear on the project. From investigation it was found that an average man and family could handle two acres of tea producing about 1,200 lbs of tea per annum, including all agricultural and soil conservation operations, and the maintenance of an allotment for subsidiary crops. The biggest difficulty was the innate indolence of the African plot holder. To offset this a small gang of paid labourers was kept and if a cultivator got behind in his pruning, plucking or cultivations a helper was drafted into his plot whose wages were debited against the plotholder's leaf bonus. The debit was at the rate of twice the normal daily rate for a labourer in order to discourage laziness. One and 1/2 d per lb and a yearly bonus might be given after a percentage of the capital expended on the factory was deducted . . . [giving] . . . £20 per year cash income (KNA AGR 4/166, 9 September 1948).

What is known of this enterprise is limited, but it reveals that the idea of African grown tea had arisen, and it also foreshadows some more recent attitudes--in particular the tendency to attribute the failure to comply with the agronomic practices laid down to the laziness of the African rather than to

the low return for his and his family's efforts. As noted elsewhere, the recipient in Kenya of this letter commented:

£10 per acre gross income is not a high figure and compares most unfavourably with that received . . . at present. (ibid., SAO Central Provinces, Kenya, to Director of Agriculture, Nairobi, 2 December 1948).

4.2 African Grown Tea After World War II

4.2.1 Initiative by the Department of Agriculture

If the immediate context of the initiative and planning of smallholder tea production was constituted by the internal and external pressures towards decolonisation, what was the official thinking that informed the shaping of these forces? The formation of postwar development policies and their impact upon the practices adopted is evidently a complex subject that has yet to be thoroughly studied (see, for example, Cowen 1981). These issues cannot be dealt with here in any depth. However, it is clear not just that many of the later developments of the scheme after independence reflected earlier thinking, but also that the earlier developments were the result of experiences of colonial agricultural officers dating back to before World War II.

Since some authors have implied that postwar developments in East and Central Africa, such as the Swynnerton Plan, were a response to political disturbances, it is worth reporting the extent to which such events seem to have conditioned the smallholder tea schemes in Nyasaland. In a later section I show how the initiative for and evolution of policy in Kenya likewise needs to be dated before Mau-Mau, and located in earlier and other agricultural development efforts.²⁹

It is notable that the possibility of African-grown tea does not appear in the report of the Post War Development Committee, some members of which were prominent in the tea planting community.²⁹ Discussion of the growing of tea by Africans enters the Ministry of Agriculture in Nyasaland in a serious way in 1955, although it had been raised before.³⁰ In the file entitled "Tea Production by Africans," the ball is set rolling with a copy of Minute No. 19 on file SMP 10674, by the Director of Agriculture:

I am in favour of the principle that Africans should be allowed to grow tea. It is obviously sound policy to replace maize with a high priced crop such as tea where conditions are favourable, and the general raising of the African standard of living is desirable. (MNA, AGR 8/1A, referring to a minute on file SMP 10674).³¹

In the 1950s agricultural policy in Nyasaland was overwhelmingly concerned with soil conservation, intensive agricultural development, and land settlement (Kettlewell 1955; 1965) and it is not unreasonable to believe that the ecological thinking was a consistent strand of thinking within the Ministry of Agriculture (Beinart 1984a, b). The same case was made a few years later:

We agreed that as part of the policy of developing a cash economy, it would be appropriate to grow the highest value crops most appropriate to any particular environment. We felt that tea as a crop had much to recommend it from the point of view of the African farmer. . . . high value ensures a reasonable return even in areas where land was short and it is independent of the need for supplementary land from which to produce mulch and manure (unlike coffee). We considered that Nyasaland Africans were perfectly capable of growing and managing small tea gardens . . . they already had considerable experience [of tea growing on estates]. . . . [A]t present virtually all the land in question is mono-cultivated with maize--a highly wasteful and undesirable situation brought about by past estate policy and the economy it has developed in the area of depending on estates for a cash income to supplement subsistence food crops on such land as is available (Director of Agriculture to Chief Secretary, MNA, AGR, 7 December 1957).

There is no evidence here that the initiative was a response to the Cholo riots or to pressure for African participation, although these may have had some influence on the general course of thinking, without having to be mentioned. But such a connection was denied by a number of the officials involved (interviews, Kettlewell, Sandys, 1986; see also Thurston 1987). However, there can clearly be some debate as to the roles of official thinking and of context in determining the course of policy (Phimister 1986). No doubt both official logic and context play parts, which may vary from case to case and over time. This debate, too, raises issues that cannot be settled here; for the present I will give an account of the development of official thinking, and only touch on the other forces at work. It will become clear later that the (possibly erroneous) ideas that powerful official actors hold have had an important impact in determining the course and outcome of the project.

In his review of agriculture in Nyasaland, Kettlewell notes:

In some of the steeper wetter areas with gradients of 20 percent or more and 50 inches of rain, bench terraces were the only safe and permanent form of conservation work. Government policy was to encourage this construction for high value perennial crops that would repay the hard work involved (Kettlewell 1965:257).³²

Moreover, the idea of raising African living standards is also consistent with the pressure on the Ministry of Agriculture due to "development" ideas and the enthusiasm of Colby who was the governor from 1948 to 1956. Under his influence, the Ministry of Agriculture was constantly under pressure to find activities for Africans to participate in (Kettlewell 1965; Sandys, interview, December 1986).

I have not been able to find any other reason why the question of tea growing by Africans was raised, although it may later prove possible to locate file SMP 10674. At the time, no other justification seems to have been offered for this initiative. Nevertheless, a number of additional factors should be considered, since it is unlikely that ecological and welfarist logic alone provide an adequate account of the origins and future of the scheme. Moreover, certain issues raised in the discussion of the KTDA (described below) need to be considered. The most obvious factor was pressure from individual Africans who were eager to grow tea; a second set was the political pressure that African politicians, the British Government, or CDC might have brought to bear.

4.2.2 Pressure from Africans

While some differentiation occurred among Africans in the southern tea-growing areas, as was briefly shown above, I have found no mention of pressure specifically relating to tea in the files of the Ministry of Agriculture at the time;³³ nor do they record any general linking of the initiative to either the Cholo riots of 1953 or the emergency of 1959. It is perhaps noteworthy, however, that the "Jack" Report, which was published at the time of the disturbances in 1959, mentions "the possibility of encouraging Africans to grow tea on the lines now being developed in Kenya," but this arises largely in the context of the value of tea to Nyasaland and the impossibility of estates' expanding by purchasing Public or Trust Lands (Federal and Nyasaland Governments 1959:220). Sandys reported that some minor African politicians made verbal inquiries about the possibilities of growing tea during his time as Principal Agricultural Officer in the Southern Provinces in the 1950s. A number of other Department of Agriculture officials said that the tea industry was very isolated from the government at the time, the main overlap being the government Tea Research Station in Mlanje.

Referring to a slightly later period, Charles Johnson, who came from Northern Rhodesia to become Director of Agriculture in 1960,³⁴ in a situation of acute political tension--much of it related to the coercive practices of the Department of Agriculture--reported the difficulties he experienced in making contact with Africans to find out what they wanted. He suggested

that none of the main African politicians of the time took a particular interest in tea as they had "other fish to fry." The view among Africans seems to have been that tea required a factory, the capital cost of which was beyond their means, so they did not consider the possibility--at least until they became aware of what was happening in Kenya. Somewhat later, in the early 1960s, Dr. Banda's insistence that Africans should participate in every major activity brought considerable pressure for allowing tea growing by Africans. However, although pressure was felt in the 1950s and earlier over African participation in tobacco (McCracken 1984), I can find no record of such pressure as regards tea, nor do the officials I have interviewed report it prior to the late 1950s. It was specifically Dr. Banda's initiative that entered the collective memory of the expatriate tea-planting community as the reason for establishing a smallholder tea scheme.

4.2.3 Resistance by Estates

The main perceived obstacle to Africans' growing tea, or at least experimenting with it on a small scale, was the difficulty of processing the leaf. This would require either the cooperation of neighbouring estates or setting up an independent factory, which would be costly and risky, although, as will be seen, this did not deter Kenyan officials at a similar stage. The factory problem would be exacerbated because smallholder tea would be widely dispersed, preventing the planting of large, contiguous blocks of smallholder tea. The latter was initially perceived in Kenya as the appropriate way to develop smallholder tea production, but it was later abandoned in favour of dispersed plots of tea on the existing holdings of cultivators. Estates had already planted major blocks on what were perceived as the best tea-growing lands, while the high density of the African population on the rest was thought to mean that each individual could set aside only a small portion of his/her holding, keeping the rest for food production and thereby creating a highly dispersed pattern of production. Thus, as in Kenya, the immediate problem was to gain the cooperation of the tea estates. As Kettlewell noted:

2. It will probably prove difficult to sell the idea to the Nyasaland Tea Association who will probably object on the following grounds:

- a) theft of tea
- b) effect on labour supply
- c) possible spread of diseases or pests from neglected African tea
- d) other difficulties of African production enumerated below.

. . . .

4. There will be difficulties. . . .

- b) Could they be persuaded to maintain a high standard of plucking. . . .
 - c) Could we exercise sufficient control over the quality of the tea and the price paid for it. . . .
5. I think that the field difficulties could be overcome by exercising very rigid control over growers. . . . This of course presupposes European supervision. . . . (Director of Agriculture, NMA, AGR 8/1 Tea Production by Africans, 1955).

The perceived power of the estates was reflected in the caution urged by the government:

His Excellency wishes you to make preliminary examination of the possible areas [for African tea] from the standpoint of:

- a) Africans growing tea and selling leaf to existing tea factories, and
- b) the production by Africans of tea within a confined area to serve a cooperative factory.

I am to say that this initial investigation of specific areas should be carried out with the utmost discretion and without publicity of any kind, and that you should consider at this stage only technical aspects of the problem, and the question of opposition from the Tea Association to be taken up only after and when the government considers that there is a good prima facie case on which to proceed.

. . . .

3) His Excellency has expressed the view that possibly coffee would be a better crop to encourage . . . (Chief Secretary, to Director of Agriculture, 17 August 1955).³⁵

The Director of Agriculture proceeded by writing to the Directors of Agriculture in Kenya and in Uganda for information on tea growing by Africans, and asked the Principal Agricultural Officer Southern Provinces (John Sandys) to pursue the matter:

It will be appreciated that many difficulties will arise before the growing of such a crop could be put into practice. I have however been asked by the government to define areas where Africans could grow tea, perhaps on what is or will be public land³⁶ near to existing tea factories where Africans could sell their green leaf.

. . . .

2) I should be most obliged if you could discuss this with Mr. Royle who knows the Cholo area well. . . . this matter should be regarded as very confidential at this stage" (Director of Agriculture to PAO SP, 12 July 1955).

The reply enumerated some other problems:

3) I should like to mention that there would undoubtedly be

very considerable opposition to Trust land production of tea from existing estates for two reasons:

(i) that estate production would be stolen and resold to the estate which had grown it. This has happened with tung.³⁷

ii) the estates would be seriously concerned at the inevitable loss of labour since many of those who now work on tea estates would no doubt begin to grow their own. . . .

[A]t the moment when the government's policy of land acquisition has quite reasonable support, even if somewhat grudgingly from estates in the Cholo area, they would undoubtedly feel that the government had been guilty of double dealing (PAO SP [Sandys] to Director of Agriculture, 2 August 1955).

Behind the latter view was, presumably, the following argument: estates accepted their loss of land to the government under the Abrahams programme in the belief that it would not affect their labour supplies, since the original rationale for alienating so much land to estates had been to improve their access to the labour of Africans settled in those locations (or to settle more Africans there as tenants). This acceptance, however, depended on the newly alienated land's being devoted to food crops, or at least to uses that provided inadequate livelihoods to a sufficient number of Africans so as not to affect the estates' labour supplies. The Administration also raised another issue: Africans were likely to be suspicious of any initiative by the government (comments by Kettlewell bracketed and underlined):

I anticipate very strong opposition from the estates over the position of labour [not justified]. I must state that the Africans in these areas are highly suspicious of the government's intentions, and the way will have to be very carefully prepared to convince the people that the scheme is not a trick by the Europeans to get Africans to establish tea on land that will then be taken over by Europeans.

I suppose that the [population] density of the area . . . is relatively high and that the people do in fact eke out a subsistence by working on the estates [they do]. If tea is established as an African economic crop some years will elapse before the grower can exist on the profits of their labour. If they have to work on nearby estates to earn this money to buy the food they cannot grow because of this land being under tea (loans), will they also be able to tend and husband their tea lands? (Provincial Commissioner, Southern Provinces, to Chief Secretary, MNA, AGR 26 March 1958) [A

stupid letter. Does he think that the policy of condemning land in favoured environments to monocropping with maize should continue indefinitely?]

The possibility of Africans' growing tea in the Nkata Bay area in the north was raised in 1956 in relation to the tea estate upon which Booker-McConnell were just embarking. Kettlewell noted that he had:

no objection in principle to Africans growing tea in the Nkata Bay area and see no reason therefore why the idea should not be put in the minds of the Atonga. . . . [There is a] question of theft. Have Bookers' considered this? (MNA, AGR 2 February 1956.)

Coming from the very different background of sugar plantations in Guyana (where politicisation of relations with foreign-owned companies had gone much further than in Nyasaland), and embarking on an enterprise in a situation of low population density and hence facing a likely difficulty in attracting local labour on a sufficient scale, Bookers was keen on the idea:

Bookers will fully support a government-sponsored scheme for tea growing by Africans in the Chombe area [near Nkata Bay]. . . . it has always been our aim to do all we can to promote the feeling . . . that the estate intends to make a real contribution to the economic improvement of the district and to provide an opportunity for local Africans to have a real stake in its progress and prosperity. . . .

[W]e could not be responsible for supervising farmers, we could only buy good standard of green leaf. . . . [This] presupposes . . . adequate skilled supervision and advice to the farmers from the government. . . .

The African tea growing area might be a little apart from Chombe, firstly in order that any of our regular labour . . . would not be attracted to growing tea themselves and secondly, in order that there should be no confusion which was African leaf (Charles Brooke-Smith, Director, to Kettlewell, MNA, AGR 22 April 1958).

The contrast in attitude with the Nyasaland Tea Association could not be much greater. In Kenya, too, the opposition from estates to African-grown tea seems to have been significantly less, at least as represented in the delay it enforced on initiation of the scheme after the idea had first been raised. The extent to which these differences in attitudes are the result of enlightenment based on culture or personality, as opposed to differences in the political, and economic, and perhaps even ecological circumstances, is hard to determine. In 1957

Kettlewell had again written to the Director of Agriculture in Nairobi:

In the first place I should like to know what the reaction of the estates was to the initial proposition that Africans should grow tea nearby. I am pretty certain that there will be opposition on the grounds that there will be theft of leaf and the whole idea will constitute a threat to their labour supplies. It would be a great help to be able to say that these difficulties had not in fact arisen or have been overcome in similar circumstances in Kenya. (Kettlewell to Swynnerton, 15 October 1957)

The reply from the Chief Agriculturalist in Nairobi noted:

So far no estate has suggested that the purchase of leaf from Africans will lead to the theft of leaf from the tea estate. The argument is reminiscent of the days when Africans were not permitted to grow coffee. It was also argued that the quality of Kenya coffee would be affected by the production of African grown coffee. In fact, the standard of African grown coffee produced by the cooperative societies is as good and frequently better. . . . [T]he fears of theft of coffee have proved unfounded. . . [the grower] has enough work to do and sufficient income from it to have no desire to wander about at night picking his neighbours coffee. Theft is born of poverty not prosperity! (31 October 1957)³⁰

The effect on labour supplies was more of a problem, about which the government, perhaps reflecting the political realities of the time, felt it had to be duly circumspect:

As regards labour supplies, one must agree that any form of alternative occupation developed in the vicinity of estates would detract to some extent from available labour supplies. Nevertheless . . . [it would] only start from very small beginnings and would develop slowly if only because it would be necessary to select carefully those who embark upon it. During this . . . the local population would also be increasing and the labour supply with it. . . . [It would] tend to result in a sharper distinction between those who aim to derive their livelihood from farming, and those who will be completely dependent on alternative forms of employment. This should lead to a more regular and hard working labour force (Kettlewell to Chief Secretary, MNA, AGR November 1957).³⁹

The question of labour supplies did indeed preoccupy tea estates, and the situation changed over time, but this is not the place to go into these issues in detail (see Palmer 1986). There is little doubt that the wages and conditions of labour were low,

but whether it is the ample availability of cheap labour that leads to its profligate use, or whether the low productivity of labour (sometimes characterised as resistance in the form of absenteeism, low work rates, and the need for intensive supervision) that prevents higher wages and better conditions emerging is always a difficult question.

The Nyasaland Tea Association was discussing this issue at a number of meetings in 1957 and 1958 (MNA NY 11, Nyasaland Tea Association Minutes, 1929-58). There had been an enquiry into the labour situation in the tea areas by the Commissioner for Labour, which concluded there were ample supplies of labour. However, "the Board did not agree . . . [and that] the industry could always absorb more labour (Meeting 30 May 1957).

The consensus of opinion was that there was always a shortage of labour in the industry and the Directors were at a loss to understand where the Commissioner had obtained his information (Meeting 17 April 1957).

In 1958 the Department of Agriculture was still being extremely cautious of the Nyasaland Tea Association:

Government wishes the whole question . . . kept very strictly confidential until it is decided and the tactics of the approach to the tea industry have been worked out. For this reason the ostensible purpose of our visit to the Cholo mountain area [to look at possible African tea sites] will be to inspect that part of the mountain which Mr. Dixon complains has been cleared of forest and subjected to unsuitable methods of land use. At the same time. . . . (MNA, AGR Director of Agriculture to PAO SP, 26 April, 1958).

A decision to go ahead was made in early 1958:

agreement was reached on the following:

the introduction of tea growing by Africans in Cholo

c) the proposals should be pursued on the basis of the sale of green leaf on contract to existing estates . . . success of any project depends entirely on the goodwill of the estates in question. The establishment of a cooperative enterprise is not feasible at the present time in view of the considerable capital involved.

d) . . . in the first instance . . . on land that is situated some distance from the boundary of existing tea estates.

Possible difficulties:

. . . the present labour position on many of the tea estates is not entirely satisfactory . . . (and yet the Commissioner for Labour allows more or less unlimited recruitment [to South Africa])

b) provision of finance to the growers until such time as their crop ripens [sic]

c) the danger of theft of green leaf . . . cannot be disregarded. . . .

d) . . . increase in the political pressure for the occupation by Africans of estate land currently under[utilized]

e) in some circumstances, be construed as an attempt to confuse the issue regarding the outstanding question of the federalisation of non-African agriculture. In other circles it may be regarded as an attempt to "Europeanise" more land . . . an appreciation of the economics of the enterprise vis-à-vis the individual cultivator. . . .

When your further detailed recommendations are received, the proposal will be further considered and also the tactics of any substantive approach to the NTA which may be necessary (ibid., Chief Secretary to Director of Agriculture, 28 April 1958).

Progress was apparently held up over the approach to the NTA. In a letter to the Director of Agriculture, Dar-es-Salaam, Kettlewell noted somewhat later:

I am trying to convince the Directors [of the Nyasaland Tea Association] here that it is in their interests to have a few Africans associated with them in a common enterprise-- quite apart from the rightness of converting maize mono-cropping into a sound cash economy. But there is great reluctance for various reasons you can imagine, though I do not think they are very valid (19 April 1960, MNA, AGR Conf 8/1A/1).

Also, it was realised that there were "no suitable areas in Mlanje and Cholo not close to estates . . . only Zoa estate" (Principal Agricultural Officer, Southern Provinces [PAO SP] to Director of Agriculture, 14 July 1960). At least one official was close to despair:

I think it would be very difficult to start the project at all if it had to depend upon finding a sufficiently

progressive European estate manager who would agree to buy African leaf. I think that great pressures would be brought to bear on him by the estate owners, and he might even be compelled to change his mind after we had persuaded the Africans to begin growing tea, which would of course be disastrous (PAO SP to Director of Agriculture, 14 July 1960).

The subject was finally broached by the Department of Agriculture, in a suitably circumspect manner, after considerable discussion and correspondence within the Ministry:

. . . Government is very well aware of the need to proceed cautiously in any plans that may be evolved for African tea growing, and the need to maintain high standards of field management and quality in the interests of the established tea industry, whose importance to the Protectorate's economy can be scarcely over-rated. . . .

[It is] government's view . . . that it is both economically sound that Africans should grow the highest value crop suited to the environment . . . and politically desirable that they should be associated, and have a common interest, with Europeans in so doing. (Sec. Natural Resources to the President of the Nyasaland Tea Association, 14 January 1961, MNA, AGR Conf 8/1A:114)

The Tea Association did indeed respond as anticipated. In a brief for His Excellency for a meeting with the Sub-Committee of the Tea Association, it was noted that;

4. Various objections have been raised by the Tea Association to the idea of permitting Africans to grow tea, although more recently the Association has claimed that it is not opposed in principle to the policy of African tea growing. The objections are:

. . . the Nyasa African is not sufficiently ambitious or energetic (b) . . . unlikely to produce anything but a coarse leaf which would devalue Nyasaland's reputation for a good quality product; (c) . . . could not accept, and the government could not enforce the very high standards and rigorous conditions . . . which have been found necessary in Kenya; (d) that the experiment in African tea growing should be tried in some area other than the tea growing areas of the Southern Provinces. . . . (MNA, AGR Conf 8/1A:119 1961)

These points were indeed raised at a meeting held on 4 April 1961. One planter apparently demanded that the nearest smallholder tea should be at least 50 miles from an estate (Johnson, interview 13 December, 1986), which, he maintained, had

been the case in Kenya. It was pointed out that this was not the case (Note on a Meeting to discuss the possibility of tea growing by Africans 4 April 1961). The last condition was reduced at the meeting to at least 15 miles distant from any existing tea estate (ibid.: 121, 4 April, 1961), which, given the very limited area available ecologically for tea, effectively envisaged excluding smallholder tea from the Southern Region.⁴⁰

Pressure on estates to come to an accommodation was rising, however. In November 1961 Mr. Chikafa, Member for Mlanje, stated in the Legislative Council:

I would also mention . . . to have, if possible, an institution which can train the people to run these industries of tea in these areas where the tea is being grown and even in other areas where the tea is being extended to (Proc. of 2nd Meeting of 76th Session of LegCo, 1961:91, 29 November 1961),

and in 1962 Mr. Chibambo (Mzimba North) asked a question of the Minister of Natural Resources and Surveys, Dr. Banda:

What plans has the government for encouraging Africans to grow tea? (Proc. of 3rd Meet of 76th Session of Legco, 6 March 1962:112),

while Mr. Peterkins (Southern Districts), himself a tea planter, expressed the concern of estates:

I am sure, Sir, the Honourable Minister does not want more uncertainty sweeping in amongst estate owners and occupiers [interjection: they will be protected]. . . [They] produce a large part of the wealth of this country and are the largest employers of labour.

Now, Sir, we can learn a lesson from the tea industry in the East. . . After the handover . . . graft and corruption crept in and there was a great deal of interference with the tea estates, with the result that the tea industry drifted into the doldrums . . . many expert tea planters left, standards were lowered and prices sagged. . . (ibid.:253).

Dr. Banda's position was made clear in his introduction of the Special Crops Bill, in 1963:

. . . we cannot let an industry . . . be a monopoly, whether by accident or otherwise, of one racial group. . . .

I have said that the Bill originally was intended for tea, but I am extending beyond tea; that is why I am expecting fireworks from the other side because under

Clause 6, anytime the Minister declares a crop a special crop no one can grow, buy, barter, or sell that crop without a license, and the Minister is the one to decide who is to have the license. . . . We have now in this country other crops besides tea. . . . Tobacco for one, cotton, groundnuts. . . . At present flue cured and Burley are monopolies exclusive to Europeans. Well I want Africans to grow both flue-cured tobacco and Burley as well. . . . And here again let me declare my interest, my personal interest. . . .

You know I come from Kasungu. . . . (Proc. of 9th Meeting of 76th Session of LegCo:929, 930).

The different relative treatment of tea and tobacco foreshadows the different degrees of involvement that the industries have experienced since independence. It raises the question of whether it is something intrinsic to tea compared to tobacco (the scale of capital requirement, the degree or organisation of existing estate producers, or difficulties of production supervision or marketing perhaps), or the strong political representation in the Malawi Congress Party of tobacco-growing regions that accounts for their different histories.

Mr. Little (Limbe) was worried that the capital invested in estates and factories would not be protected (ibid.:940). Mr. Blackwood, the effective leader of the Opposition, assured the Minister:

that I do know that the Tea Association fully appreciate the Prime Minister's concern that it should only be the large European firms that are growing tea and welcomed the approach of the committee . . . and I am sure he will agree with me did cooperate with it,⁴¹ and I know it is their intention to do so with any Authority that may be set up here after.

Mr Chiume, a member from the north, expressed a personal interest in the extension of tea growing to Africans in Chikwina. Summing up, Dr. Banda went to lengths to reassure the Europeans:

I want to assure the Honourable Member (Limbe) that I have no intention of doing that kind of thing, of ruining anyone in Mlanje, Cholo or any other place where tea is being grown.

That gives me an opportunity for saying what I deliberately left out when making my speech. . . . The idea behind this Bill . . . is this, that as they are doing in Kenya, where Africans bring their green leaves to a factory, so too here. . . . My idea about this Bill is this: that there will be, at least wherever possible, not only

consultation and cooperation between the established owners in Mlanje and Cholo and elsewhere, but where possible even a partnership. The factory may be owned by an estate owner or by the Farmers Marketing Board, so that African growers who cannot afford capital to put up a factory will bring their leaves so that some of your factories will be fed by tea growing African farmers. That is how they are doing it. For example in the early stage we have no intention of the government putting up its own factory. We intend to use those factories that exist. So that there can be no question of my using the Bill to ruin anyone in England or in Cholo, not at all. What I want to ask you to do is to persuade the tea estate owners in England and in Cholo that they must not look upon Africans as their deadly enemies, their deadly competitors, but as their fellow human beings and partners in life; they must try to help them. . . . I am not going to tolerate anyone, estate owner or businessman of any kind to fleece and rob my people. . . . This country is not poor. It is not only a neglected country but a robbed country. . . .

I assure the Honourable Members in front they have nothing to fear from me but they must warn those of their friends no tricks, no tricks please, no tricks (ibid.:948-9).

This suggests that the government felt vulnerable to the estates, believing their cooperation was required for the successful accomplishment of the project. It is not clear whether this was just because of the need to avoid the financial risks entailed in a smallholder factory, or because of doubts about the government's ability to manage the technical and business sides of tea production, or in part because of the political pressure the government knew could be brought to bear should the estates so desire. But if the government felt itself somewhat in the hands of the estates at this point, the main concern of the estates was also political:

I would point out, however, that the replies [to enquiries about factory capacity on estates for potential processing of smallholder leaf in the future] unanimously emphasise that the most important factor in the whole of this forecast and of expansion and improvement to factories, is the political stability of this country, and the Government's future policy in regard to the tea estates (Secretary, NTA to Director of Agriculture, 2 May 1962).

The scheme eventually went ahead, following feasibility studies in which the Tea Association was closely involved-- Nyasaland tea planters were members of the teams that prepared the initial studies. A scheme evolved closely similar to the Kenyan scheme, which was largely successful from the

smallholders' point of view from the start,⁴² and was something the established tea companies there not only could live with but, through contracts to process smallholder leaf or management of smallholder factories, they were able to benefit from. Control of growers' planting material and plucking standards was built in from the start and has been as successfully enforced as in Kenya; fears of theft of estate leaf have not been realised, as the Department of Agriculture correctly anticipated (see the Draft reply to the letter from the Tea Association of Nyasaland and Rhodesia, of 4 February 1961, MNA Conf 8/1A).

4.3.1 Control

Whether control of growers and of leaf quality was the price the NTA extracted for cooperation with the scheme or the result of "official" beliefs about the appropriate manner in which to develop African agriculture of this type is a moot point. Control, and indeed coercion, had been a characteristic of the conservation programme, justified in Kettlewell's mind by the urgency of the problem (Kettlewell 1965), although not unopposed by many members of the Department of Agriculture (Sandys, interview, 12 December 1986). Control was a standard component of policy that introduced any new practice to African agriculture, as I show below in the case of attitudes of Kenyan officials.⁴³ There the idea of control stemmed from both the licensing of acreage under the International Tea Agreement, and the need to train Africans in new techniques. An additional, later argument was the need to control marketing of the leaf in order to recover loans extended for tea growing and factory construction. Similar views were standard among Nyasaland officials at the time. Recall the report of the "natural indolence of the African" given as justification by the Tea Research Station for charging Africans twice the wage rate for performing operations on their tea. Another director of the Tea Research Station in Mlanje wrote, apropos of the suggestion that smallholder tea growing should be promoted in the Northern Region:

The second factor that comes to mind is sociological. The whole art of tea growing in the field demands discipline and persistence--factors which can be controlled under the plantation system. Like cattle, tea has to be 'milked' daily, whether one wants to or not. . . . Having heard of the iniquities of the Atonga I wonder if tea and the Atonga will go together?

I am under the impression that African grown tea in Kenya is going well, but my Gestapo inform me that it is simply because the AO in charge has near Dictatorial powers. You either grow tea efficiently or you don't. No half measures (Laycock to Director of Agriculture, 18 January 1959).

This was also the view of the Kenyan officials:

[W]e insist on full control . . . by licensing producers and legislation to keep a tight hold on the actual acreage planted and on the standard of cultivation. The object being to produce big yields of good quality leaf which can be made into the best possible final product so that the African grower can obtain the maximum possible return. From recent studies in India I am quite sure that we have approached this soundly and we would have been very unwise to try to develop in the absence of satisfactory control as has taken place in parts of South India and Ceylon. The development of smallholder tea there may have cost the government very little but has resulted in a large quantity of very poor tea which would not in my opinion be economic on the export market. . . .

We have very seldom had to use any part of this legislation and most of our African tea growers cooperate very well. Certainly we would never go to the expense of bulldozing the tea out of the ground but would force him to uproot it himself which would be very much more painful. (Director of Agriculture, Nairobi, to Kettlewell, 1 July 1960).

The Tea Association was very skeptical of the government's ability to exercise the required degree of control, no doubt partly as a result of the outcome of the soil conservation campaigns and the 1959 disturbances. Some officials shared these doubts:

I am in some doubt whether the Tea Association will be reassured by the proposal to evict from his holding any African who fails to produce tea of the acceptable quality. Eviction is a somewhat drastic remedy. . . . The prospect of arbitrary eviction may well deter settlers. . . . Moreover, this weapon will not be available when tea growing is introduced on Tribal Trust Land. (Director of Agriculture to Secretary for Natural Resources, 17 February 1962).

The government was prepared to concede that "No area of Trust Land is regarded as suitable for the pilot project, since the Government would not be in a position to select the participants, nor to exercise the ultimate sanction of removal." (Conf MNA, AGR 8/1A:119, 1961)

The logic of the government's position was not that control was necessary to meet the requirements of the Tea Association, but that it was necessary to the viability of the scheme. Thus Kettlewell, whose harsh attitude has been noted (Beinart 1984a), wrote:

I may say that I attach the greatest importance to the preparation of such a scheme and to our endeavours to get it accepted by the Tea Association. Not only would African tea growing be of considerable economic value, but the political significance of prosperous African neighbours associated with the tea estates in a common interest is obvious. I cannot see why we should not succeed . . . if they have been able to do so in Kenya and Tanganyika. The Kenya experiment shows it to be essential to have some form of Statutory Board in between the African producer and manufacturers.

Great emphasis is placed upon the necessity for very rigid control in Kenya to ensure high standard of tea culture in the general interests of the industry and of African tea producers in particular (Kettlewell to Director of Agriculture, 13 July 1960).

The vigour, and perhaps insensitivity, with which these ideas had been put into practice in Nyasaland had been deeply offensive to Africans⁴⁴ and became a major plank of the Nationalist platform, even though at a later date the principle controlling of farmers was adopted by the independent government. In his speech moving the Land Use and Protection Bill, Dr. Banda expressed a view that integrated many grievances:

There are those in this House possibly across the floor who feel that Africans are children and must be coerced into doing everything for their own good. But those who cling to this idea forget that Africans are human beings, and humans, grown adult human beings the world over resent being coerced and being treated like children. I believe in the method of persuasion and in treating Africans from this country as grown up adults, who know, understand and appreciate what is good for them and what is in their interest. I do not believe in the method of coercion and regimentation . . . to terrorize the people into good farming. . . .

I refuse and will always refuse to send anyone to prison to make him a good farmer (Proc of 3rd Meeting of 76th Session of LegCo, 6 March 1962:227).⁴⁵

Four issues seem to be confused in discussions of this issue. First is the training component, whereby growers are shown how to do things. Second is the educative component in which they come to understand that it is in their interests to do them: this follows largely from successfully undertaking the tasks set in the training component. Third there is the possibility of "easy riding" by growers who pluck more coarsely or fail to cultivate as intensively as is in their collective interest; this possibility leads to a legitimate argument for control (although that is not the only way of dealing with such

problems--privatisation, and the encouragement of collective decision-making institutions are others that have been canvassed; see Runge 1986). Fourth is the possibility that control, while justified on the first two grounds, can be used to exploit the grower. This last argument is that of who guards the guardians? As I have argued above, the issues involved in the first two points are complicated because the incentive problems resulting from the paying growers the average net revenue implies some form of control, or self-restraint, or binding. Thus education involves not just realising that certain techniques lead to certain physical results, but also that inputs somewhat different from those implied by myopic rationality are in reality justified.

Coercion, sometimes in the form of enforcement of a contract, is a frequently advocated solution to these problems, although whether it is right to call enforcement of a contract coercion depends on whether the original contract was freely entered into, and with what information, and on the arbitration and enforcement mechanisms and bargaining power involved in these processes. In some cases no contract, implicit or explicit, exists, and compliance is obtained by reliance on authority and its complement, trust. In other cases "contracts" are so one-sided as implicitly to rely completely on control exercised through the absolute right to sack or dismiss. In yet other circumstances contracts of varying degrees of fairness exist. The effect on individuals in all these cases will depend on actual outcomes, on implicit and explicit enforcement mechanisms, and on the fallback positions they have in the event of losing the contract, or of being dismissed. In arbitration, negotiation, and enforcement, information and understanding about the facts of the case and the causal mechanisms involved are crucial, in addition to other relevant resources (fallback positions, perception, and coercive ability). Thus, I argue in the present case, control by STA management of identifying causes of low productivity of (some) growers was central to policy, and, hence, outcome. This is discussed further below. The upshot is that somewhat separate issues get confused, and arguments paraded may not only be erroneous, but either casuistic or the result of genuine self-deception. Nowhere is this confusion more apparent than in the debate over the plucking standard.

4.3.2 Quality

It could be argued that, as long as they did not have their own factory, smallholders had to be controlled because the estates to whom they had to sell their leaf required it, in the estates' interests rather than the growers', in the first instance. Thus, the Nyasaland Tea Association's position was:

this Association views with grave concern the intention of the government to set Africans up in the growing of tea on

small holdings without any intimation of how it is intended to ensure they only grow good quality tea, knowing full well how rapidly the country's reputation can be ruined by inferior quality tea. This Association notes that it is the intention that only the highest quality tea is to be produced, but it is skeptical of the degree of control that can be maintained, and the application of the stringent measures that would necessarily need to be taken against those Africans who do not maintain such quality (NTA to Secretary for Natural Resources, 4 February 1961).

The shift in the NTA's position was noted:

You will observe that the Association's opposition to any project for the growing of tea by Africans has now been focused on its doubt as to whether it would be able to maintain standards of quality without which the whole tea growing industry of the Protectorate would suffer a severe setback (Secretary for Natural Resources to the Director of Agriculture, 7 February, 1961).

The draft reply to the NTA's letter stated the government's intention to implement "signed conditions of license," in a "settlement type project." Elsewhere the government emphasised the power to uproot illegally planted tea (of poor genetic potential, or planted without a license) and the tea of noncompliant growers, and to refuse to buy poor quality leaf.

The issue of quality in tea in this discussion revolved around two issues: the genetic potential of the tea planted and the standard of plucking. These are discussed in following sections.⁴⁶ Other important components of quality are the transport and handling of leaf from the field to the factory, and the type and standard of manufacture.⁴⁷

Control, it was thought, must be exercised over smallholders so that only high potential genetic material was planted, and only high quality leaf plucked. Left to themselves, growers might either choose unwisely, ignorant of the effect of genetic potential on the yield and quality of tea, or, more likely, choose plants that were more privately profitable (cheaper, easier to grow, higher yielding) instead of plants with higher genetic potential for quality (though perhaps more expensive, harder to establish or pluck, or lower yielding), which was in the interests of the scheme and perhaps the industry as a whole.⁴⁸ The same argument can be applied to the question of the quality of green leaf. However, as argued below for the case of the KTDA, the officials clearly thought that control and a fine standard of leaf were in the best interests of growers, in that they thereby would maximise returns.

The question of quality was not just special pleading on behalf of the Tea Association. Memories were still strong of the slump in tea prices that led to the International Tea Agreement of the 1930s, of which the Nyasaland industry had been a strong supporter, and that had led to restrictions on the expansion of tea growing as well as to finer plucking on many estates (Palmer 1985:222). World tea prices declined after the post-World War II boom, and it was widely believed that there was a connection between tea prices in a given area and quality.⁴⁹

The view that "high quality tea stands a better chance of remaining on the market at times of tea price depression" (Mc William 1957) was, and indeed still is, widely shared. It had apparently obvious implications for the appropriate plucking standard, given the belief at the time of a strong connection between plucking standard and made tea quality. This concern continued into the 1970s, as the following extract from a Tea Association circular illustrates:

All members are fully aware of the Association's agreed policy with regard to Quality. We have been instructed to re-emphasise that from every point of view it is vital that the entire tea industry should continue at all times to strive for the best possible quality that is capable of being produced, and any suggestion of even temporarily going for quantity at the expense of quality could be disastrous. Your Board of Directors is of the unanimous view that the Association's policy in this respect, has in recent years proved to have been beneficial, and it should constantly be adhered to and given priority (Tea Association Circular CL 72/25, 14 July 1972)⁵⁰

4.3.2.1 Planting Material

The question of the quality of planting material was no casuistic argument on the part of the NTA. Much of the tea planted in Nyasaland was planted before the Second World War and was, and still is, of the China Hybrid type,⁵¹ which has inferior quality in most African conditions. Much of the work of the Tea Research Foundation (TRF) after it was taken over by the Tea Association has focused on selecting and breeding high quality planting material; indeed it was the priority in the 1960s and much of the 1970s (see the Director's Annual Speech to the Tea Association, published in the Annual Reports of TRF).

4.3.2.2 The Plucking Standard

The "two-and-a-bud" plucking standard has been the norm in the tea industry throughout the major producing areas, and has something of a fetish about it--the Journal of the North Indian Tea Research Institute at Toklai is even called "Two-and-a-Bud"! The Tea Growers' Handbook, published by the Tea Research

Institute of East Africa, states that "In East Africa fine plucking is the rule" (TRIEA 1969:59), and officials clearly believed when the African smallholder tea schemes were established, and in some cases continue to believe, that "two-and-a-bud" is the "profit-maximising" plucking standard. The Director of Agriculture in Kenya wrote to his counterpart in Malawi to explain the practices of the Kenya smallholder tea scheme at the time of insisting on a "two-and-a-bud" plucking standard:

. . . the object being to produce big yields of good quality leaf which can be made into the best possible final product so that the African grower can obtain the maximum possible return (MNA AGR Conf 8/1 A, 1 July 1960).

The Nyasaland Government concurred:

It is often stated that coarse plucking produces higher cash returns per acre, but we consider that properly plucked tea not only gives higher yield in green leaf but also produces the higher cash return per acre, which is the important thing to the smallholder (Nyasaland Government, 1962:9).

The question of the appropriate plucking standard for smallholder tea growers in Malawi was raised on many occasions. In 1977 CDC noted that:

TRF recommends a standard aiming at a bud plus three leaves as being less expensive in labour and requiring less plucking rounds. The saving in labour has been shown to be of the order of 40 percent. Smallholders who employ labour generally pay on a task basis at 05. tambala per pound green leaf. A switch to a three-leaves-and-bud standard might therefore save up to 40 percent in labour which, on a 5,000 lb per acre crop, would be worth some K10 per acre or 0.2 tambala per lb green leaf--the equivalent of about 1 1/2p per lb made tea. The premium on fine plucked tea, however, is almost certainly greater than this--probably of the order of 8p or 9p per kg. The mission would therefore endorse the STA policy of fine plucking, but would suggest that care be taken to reduce the amount of bud plus one leaf plucked as this could result in a significant loss of crop (CDC 1977:22).

TRF did not in fact recommend the three-and-a-bud standard on the grounds of labour saving alone, but rather on grounds that the main advantage of a coarser standard was the considerably greater yield that resulted, of the order of 20 to 40 percent, without commensurate decline in quality and price (Palmer-Jones 1974:131), and this was made clear to STA in correspondence from TRF in 1976. In response to enquiries about the yield potential

of smallholder tea the Director of the Tea Research Foundation replied:

Intimately bound up with yield is the question of plucking standard. There can be no doubt that from all the evidence . . . and estate experience . . . that fine plucking produces less yield than coarse plucking. . . . Fine plucking is also more labour consuming. . . . Certainly any improvements in price you may get do not compensate for the loss in total saleable tea. I have discussed these factors in the last Quarterly Newsletter and they are analysed in depth by Palmer-Jones in his report (Director TRF to General Manager STA, 18 February 1976; see also Director TRF to General Manager STA, 4 February 1976).

The idea that the extra weight of three-and-a-bud shoots plucked on longer rounds would be offset by the greater number of shoots that would be plucked if a two-leaves-and-a-bud standard was employed, which would have to be plucked on shorter rounds is widespread,⁵² but is unfortunately based on misunderstanding of the way in which shoots grow and can be plucked. In fact, any standard can be applied on any length of round provided the appropriate selectivity is applied (for coarse shoots on short rounds), and breaking back done (for fine shoots on long rounds). Of course there is a tendency for fine plucking to be done on short rounds and coarse on longer rounds, in order to economise on unproductive labour, but it is conceivable, and to an extent practically possible, to separate the variables. The extent to which it is possible to persuade pluckers to practise alternative plucking systems (combinations of round lengths and standards) depends on how they are remunerated and monitored, as should be evident from the discussion of the economics of plucking above.

Early evidence from experiments on the effect of plucking standards on yield, and so on, were fundamentally flawed because they confounded the effects of round length and standard, and failing to apply a uniform standard at different round lengths (Palmer-Jones 1974:128-9, 1977a). Once the appropriate treatments were devised and implemented, the empirical evidence in Malawi has consistently supported the conclusion that the net advantage lies with coarser plucking, at least up to a three-and-a-bud standard (Grice and Clowes 1986; Palmer-Jones 1985). Nevertheless, some estates in Malawi continue to aim for a two-and-a-bud standard, and the KTDA in Kenya still adopts this as its standard, apparently on the advice from the Tea Research Foundation of Kenya (TRFK) that the coarser standard only results in a six percent advantage in yield. Estates in Kenya are quite clear that coarser standards are most economic, and are surprised, perhaps pleasantly, at the KTDA's persistence.⁵³ It is highly likely that TRFK has bungled its experiments.

4.3.3 Factory Capacity

With respect to factories, estates were in a strong initial bargaining position, given that it seemed necessary to experiment at first with African grown tea on a small scale, which would not justify a factory. Hence leaf would have to be sold to factories that had spare capacity. The terms of reference of the 1962 Working Party required it to look into the position with regard to factory capacity. The response of the NTA to the initial approach indicated limited availability of spare capacity in some factories only, but the main issue was the "Government's future policy with regard to the tea estates" (see Secretary Tea Association to Director of Agriculture, 2 May 1962).

The lack of spare factory capacity to process smallholder leaf has been repeatedly emphasised by the Tea Association in response to later enquiries into the need for a smallholder factory: in 1973, when an agreement was reached to construct the first smallholder factory (Mateco 1); again in 1976, during the Appraisal of Phase III (CDC 1977); and apparently as late as 1982, by at least one of the planter members of the Reappraisal Mission (Smith, interview, December 1986). The implications of constructing their own factory have been serious for the scheme; an ODA evaluation accepted the logic that lack of estate factory capacity entailed construction of their own factory:

Since, according to opinions and responses elicited during the 1976 Phase III appraisal mission's visit to Malawi, commercial estates to [sic] not have the capacity to process all of the projected output of smallholder leaf, it is obvious that purpose-built processing capacity is an essential component of the smallholder scheme. . . . [however] . . . Certainly the construction of the Mateco factory is going to reduce returns to smallholders below the levels that could be achieved at current leaf payments levels by estate factories (ODA, Mimeo, An Economic Analysis of the Social returns to Phase II of the Malawi Smallholder Tea Authority, n.d.).²⁴

Of course it does not follow that if extra capacity has to be created it has to be a new factory run by the Authority, it could be created under some form of contract by one, or better, a number of estate factories (to reduce transport costs), and this might be cheaper than the alternative chosen. An argument for the Authority's own factory might be that this would enable smallholders to benefit fully from the high quality planting material and the standard of plucking they employed, which would otherwise be diluted by mixing with an estate's leaf. Here too, however, the logic is not sound for a number of reasons. First, the cost disadvantage (in terms of additional transport, overhead, and interest and amortisation charges) of its own factory might more than offset the price advantage of processing

all its own leaf; second, smallholder leaf might improve the estates' prices to nearer the level their own factory could achieve, and presumably the STA would try to contract with estates for higher prices. (If some expansion of a factory was included in a contract, the standard of manufacture could be improved.)

Also it does not follow that because estates say they do not have spare capacity that this is or was the case. It was perhaps the major conclusion of my 1972 and 1974 reports that there was substantial excess factory capacity in the Malawi tea industry, and this conclusion was widely acted on in the following years, when a number of factories were closed and factory capacity did not grow in relation to the increase in total crop over the following decade. One problem in matching factory capacity to field area and green leaf production in Malawi stems from the seasonal concentration of yield in the months December to April, and the fact that even within this period green leaf supply fluctuates widely. These fluctuations are a function of the environment and cannot be offset without loss of yield. They mean that the maximum day's output may be as much as 1.5 percent of annual output. This is in strong contrast to the situation in Kenya, where the maximum day's crop would seldom exceed 0.5 percent of the annual total. My conclusion followed from challenging the industry's standard practice of having capacity to manufacture the peak day's crop in less than 18 hours, and aiming for a normal working time of 10 to 12 hours in the main season. The throughput of a tea factory is limited by its drying capacity; other processes (deformation of the leaf and fermentation) are usually matched to dryer capacity. The capacity of machinery performing these processes sets the throughput per hour. The throughput per day is further affected by the withering capacity: the volume of withering capacity sets the throughput per day. I argued that there was no reason not to plan to work 24 hours during peak periods, and that the capital cost of extra capacity in extreme years (peaks in many years were well below those in others) was not worthwhile. Some form of control of the distribution of yield--if necessary by throwing away plucked leaf rather than processing it--was more economical (see Palmer-Jones 1974, 1977). The development of trough withering allowed rebalancing of withering to drying capacity, and meant that existing withering space could be upgraded to handle a high volume, so that existing processing equipment could be used for longer hours. Even so, there would be occasions when leaf availability exceeded factory capacity, but a range of techniques were available for managing this situation in a way that was more profitable than creating extra capacity.

No doubt the rather difficult circumstances of a green leaf seller's supplying leaf to a buying factory when that factory was (or thought it was) already supplied with leaf from its own estates over its nominal capacity, could lead to tension between

supplier and buyer. This may have played some part in the historical difficulties over leaf buying in the Nyasaland tea industry, as compared to Kenya. Leaf sellers, as I have shown above, often felt that buyers manipulated the situation to their advantage, with the long-run aim of taking over the seller's estate.

Ironically, this may well have been the case with the estate formerly owned by the family of the General Manager of the STA (Khongoloni estate), which had not had a factory and was sold in the tea price slump of 1952. The GM may have been more personally interested than reason warranted in having an STA factory, and indeed in pressing for two, if not three.⁵⁵ The GM frequently made people aware of the high prices this "flagship of the Malawi tea industry"--the Smallholder Tea Factory MATECO⁵⁶--"achieved" (GM STA to Director TRF, 5 November 1979). This was not the only occasion when this had been brought to the Director's notice, and he responded that the high prices were not surprising, given the predominance of polyclonal planting material (the result of the breeding programme of the TRF Director, who was also the plant breeder) used by STA, the high standard of plucking, and the low, actual, level of nitrogen applied by smallholders, which might detract from yield.⁵⁷

There was another reason why the MTA might have been keen for the smallholders to have their own factory, besides the two suggested above, namely, that bidding for smallholder leaf set one estate against another, undermining the unanimity among them that had been so successful in negotiations under the International Tea Agreement, in financing a very satisfactory research facility, and in negotiating wage levels among themselves and, as members of the Agricultural Employers Association, with the government. Thus, while the desirability of a smallholder factory could be put in terms of the lack of existing estate capacity and the advantage of better quality, the MTA must also have been aware (if ODA and CDC could see the point) that this would not benefit the STA's finances, and it would avoid acrimonious bargaining among themselves and with the government, and consequent prying into the affairs of estates by the government.

4.3.4 Estate Representation in the Scheme

Despite the government's commitment to the type of control employed in Kenya, the Tea Association continued to express anxiety about the scheme right up to the time it was started. On the one hand, it was argued by one member that:

The tea industry would welcome a properly organised tea growing scheme for Africans, but he felt that a bad scheme would be worse than having no scheme at all (Malawi Tea Association, Confidential Minutes of Board of Directors

meeting with Ministry of Natural Resources, 6 September 1965).⁵⁸

Minute 143 of the Tea Association of Central Africa notes that a prominent member:

. . . said he wished it recorded that he took a very serious view of the development of the smallholder tea scheme and that nothing as serious had ever happened in the past, involving the Tea Industry (Tea Association of Central Africa Minutes, 12 January 1966).

The price of estate cooperation was representation on the Board of the STA. The plantation industry was and remains well placed to articulate its interests vis-à-vis the scheme, through its representation on the STA Board. The representative of the Tea Association sits by right on the board, and it has been usual for two other members to sit on the grounds that they possess experience and competence to benefit the Authority.⁵⁹

In the early stages, when it was necessary to sell green leaf to the estates, their full cooperation was seen as essential by civil servants, and strong representation on the board the means of obtaining it (Johnson, Wilmott, Starden, interviews, December 1986). Their cooperation was and is also required because smallholder green leaf is transported in many cases over estate roads, and for other reasons (Hutson, interview, October 1986). The dependence on estates that the selling of green leaf entailed, and the acrimony involved in negotiating leaf prices every year were seen as major reasons for building a smallholder factory. An example of what might be involved is the exchange between the Regional CDC Representative and the STA over the question of the margin charged by estates for processing smallholder leaf. The Tea Association member of the board responded to the question "whether leaf buying companies were making excessive profits at the expense of the Authority." He also

"felt that CDC were implying that this state of affairs existed because two out of the three members of the working party were estate managers. If this was so [he] felt it was [a] slur on his integrity. . . ." (MNA, STA Staff and Finance Committee Minutes, 16 April 1969).

The CDC representative apologised:

In examining the current leaf arrangements CDC drew the General Manager's attention to the apparent difference between the margin included by the Malawi estate companies for handling and manufacturing cost and that charged by Kenyan companies [for KTDA]. CDC has noted the members'

views that the margins charged are reasonable, and is satisfied. . . (ibid., 23 April 1969).

The problem was not restricted to smallholders. Crozier and Wright, European planters with a small area of tea, applied to join the STA:

Under the circumstances we feel sure we will get a fair deal and not be subject to undue pressure from the powerful tea companies with a take it or leave it attitude (ibid., 24 April 1969).

In the early 1970s, when it was realised that many estate factories were underutilised, and the economics of leaf buying was explained:⁶⁰ the Tea Research Foundation--which also sold green leaf to estates--was able to negotiate a more equitable form of leaf contract; this has subsequently become the norm. In this contract, companies are allowed to deduct only variable costs from the final sale price, plus a small service charge, rather than the average costs that they had been in the practice of charging. Nevertheless, estates in Malawi have not developed green leaf exchange to any great extent, except between factories run by the same group of companies. For example, in 1986, when two factories were out of operation due to fires, green leaf was sold for a fixed price well below the full value to the processing factory. Kenya does not seem to have had the same problem with leaf contracts. A number of Kenyan factories have such contracts with outgrowers in sizes ranging from less than one hectare to several hundred hectares. Some outgrowers are KTDA smallholders, but others are independent. A possible reason for this institutional failure in Malawi is that tea yields there are concentrated in five months of the year, rather than spread out more or less evenly as in Kenya, necessitating a high factory capacity to output ratio in Malawi. Moreover, even within these five months, yields are concentrated in peaks, during which as much as 1.5 percent of the annual crop can be made in a single day, although this varies in a way that cannot be accurately predicted. The existence of these peak days results in leaf exceeding factory capacity on a few days in some years, as was discussed in the preceding section. Some leaf, therefore, may be plucked but not processed, although certain strategies are available to estates to reduce the size of these peaks (Palmer-Jones 1974, 1977). The temptation to reject outgrower's leaf on these occasions may be a cause of the failure to develop a reasonably effective leaf market; however, this would reflect opportunistic behaviour by factories. The irony is that in 1974, when the STA constructed its "green field" factory, it became accepted that there was excess tea factory capacity in the estates sector. A number of factories were closed, and most were not expanded in line with increasing yields and output (see Palmer-Jones 1974 for a fuller discussion). It might have been better if bargaining power had been used more effectively to

persuade estates to cooperate more fully in this matter, but, as I have shown above, there may well have been other reasons why the STA took on the capital burden of a factory.⁶¹

It was also felt that the knowledge and experience of tea planting that tea planters possessed was valuable to the Authority. Thus it was the view that smallholders should use tried and tested techniques, rather than the "cutting edge of new technology, which would be largely untried" (Brown, interview, December 1986). Whatever the validity of this view, in practice, there is no doubt it was widely held.⁶²

Tea planters have remained prominent members of the STA Board; I have come across no challenges to their presence, although the board as a whole has been challenged on occasion by growers. Rather, other members of the board have looked to the planters for guidance on the growing of tea, and felt that if things were not right, CDC, with its reputation for expertise in the management of agricultural projects, would have brought them to the attention of the board (Standen, Brown, interviews, December 1986). This is not an unreasonable point of view, since CDC has conducted a number of missions to appraise the STA programme (e.g., in 1974, 1977, and 1982). CDC, however, makes a distinction between projects under its own management, where it has direct control of managers, and those like the STA where, because the managers are employees of the Malawi Government, CDC was not in a position to control them.

Government members of the board have looked to CDC for supervision of the project, and have felt in no position to challenge the authority of the planters. Indeed, when it was felt that rather too many questions were being asked by a particular representative from the government, his place was taken by another member (Standen interview, 18 December 1986). Similarly, while Dr. Ellis was a member of the board he raised a number of strong criticisms, and there was some controversy about the policies of the board (see below). Following his retirement in 1985, however, his place was temporarily taken by his successor: he was left out at the next reconstitution of the board in 1986.⁶³

5. The Smallholder Tea Authority

In this section I go through in more detail--to the extent that the sources available to me make it possible--the development of the scheme, and discuss some of the major issues. The main sources I have had access to are the first two reports on the subject (CDC 1962, 1963), the feasibility study for Phase I (CDC 1967), the Evaluation of the completion of Phase II and Phase III (CDC 1977), and the report of the Reappraisal Mission of 1982 (CDC 1982a). In addition I have my own experiences of

the period 1971-1974, and intermittently from 1982-1986. I have also seen some correspondence between STA and TRF.

5.1 The Origins and First Stage of the STA

The ability of the estates to resist was overcome by 1962, following Dr. Banda's entry into government. Kettlewell had made the obvious point that "it is . . . politically desirable that they [Africans] should be associated, and have a common interest, with Europeans in so doing [growing tea]" (Kettlewell to the President of the Nyasaland Tea Association, 14 January 1961). Dr. Banda responded to a question in the Legislative Council:

I have for some time been negotiating to secure the services of a team of tea experts to examine the factors involved and advise on how tea growing by Africans can be most quickly and effectively developed. I shall be in a position to announce the membership and terms of reference of this tea mission very soon (Proc. of 3rd Meeting of 76th Session of Legco, 6 March 1962, p. 112).

It seems the initiative, and approach to CDC came entirely from the government.

5.1.1 Mission, 1962

Dr. Banda, who had insisted that no particular crop should be classified as "purely a European crop," as Minister of Natural Resources and Surveys appointed a mission to "advise on the establishment of an African-grown tea industry." The prior establishment of a considerable quantity of smallholder tea by the government was a condition of a loan from CDC for subsequent development (Swynnerton, interview, 17 December 1986). This mission, which included representatives of CDC, the Ministry of Natural Resources, the Nyasaland tea industry,⁶⁴ and two African politicians, concluded that a "potential exists for the development of an African farmers' tea production industry which may be considerable, although some years would pass before such an industry could become effective" (CDC 1962), and that "the general aim should be to plan such development with the ultimate aim of smallholders' leaf being supplied to their own independent factories as soon as sufficient supplies of leaf become available" (CDC 1962). The whole scheme was modeled on the Kenyan experience: an authority would license growers and organise planting and production, subject to rules, which were appended in Appendix XI under the authorship of Graham Gamble, the Agricultural Officer from Kenya in charge of the Kenyan scheme at the time. In addition, the mission argued:

It is also important that the growers should feel they are properly represented, and in this connection it is suggested

that advisory committees be set up in each of the African tea growing areas.

The mission was not overoptimistic: "We think it is important not to assume that, because an estate happens to be operating in a particular area, a smallholder scheme would also succeed." This was because a return of £10 per acre gave a reasonable income if there were 1000 acres of tea, but not if there were only one. Furthermore,

It would be wrong to pretend that tea is highly remunerative to the grower, especially after the considerable cost and labour involved in bringing it to maturity and providing factory capacity.

The mission went on to argue that: "Every effort should be made to establish and maintain a high reputation for producing quality tea from African smallholdings," which meant that "tea green leaf . . . must be up to the required standard which is two-and-a-bud, or one soft banjhi leaf. No more than 10 percent by weight of banjhi in any case will be acceptable to the Authority."⁶⁵

Planting in blocks, which had been unsuccessful in Kenya, was opposed in preference for planting on individual, preferably consolidated holdings. Block planting in Kenya had been part of the villagisation response to Mau Mau; villagers had planted blocks of tea and cared for them collectively. Later these blocks were divided up among them.

The mission suggested that another of the fears of the tea industry was illusory:

In recent years there has been no indication of a general labour shortage in the tea industry. Local and seasonal shortages occur, especially at Chombe estate in the Northern Province, and in the Cholo and Mlanje areas owing to the seasonal preoccupation of the people with their own food gardens. . . . We have been informed that requirements of labour in the tea area are in general made good by migrants. (CDC 1962).

5.1.2 Working Party, 1963

The mission recommended the appointment of a "technical working party to draw up detailed proposals and prepare estimates of the finance required."⁶⁶ This Working Party was led by R. J. M. Swynnerton, the ex-Director of Agriculture in Kenya, now with CDC, and included the Director of Agriculture in Nyasaland, Charles Johnson; Orton Chirwa, MLA for Mzuzu and Minister of Justice and Attorney General; and J. E. Mayne, Regional CDC representative. Its report in 1963 supported the establishment of a project "little bigger than one typical large tea estate"

(1,640 acres by 1978).⁶⁷ It acknowledged that "In a developing country such as Nyasaland it is important that the people should have an interest in and be identified with the major agricultural and industrial enterprises. . . . [T]ea has remained a planter's crop produced on estates," the main reasons being high capital costs, a long waiting period, and the "need for highly organised methods of collection and transport." However, it had been shown, in Kenya for example, that these obstacles could be overcome.

The Working Party noted that there were "willing potential growers," and "considerable enthusiasm to grow tea;" it felt entitled "therefore [to assume] . . . that the growers will wish to do it well and will be prepared to accept voluntarily, as a condition of their joining into a form of association with the board, a number of guiding 'rules' which would be drawn up in each locality with the assistance of the government and the Board. . . . Pro forma tea rules were appended to the Report of the Tea Mission of 1962". However, "voluntary discipline" and "avoidance of regimentation" were recommended.

. . . supervision and training should be conducted by the Department of Agriculture as part of its normal functions in connection with the introduction of a new crop to African farmers.⁶⁸

Apparently uniquely among the feasibility and evaluation studies, there is no mention, at least in the abridged version of the report, of the standard of plucking.

The Working Party's report indicates how the economics of the smallholder was analysed; it envisaged each grower planting up to 1 acre of tea, although an "employer grower" with 50 or even 200 acres employing wage labour was possible, and estimated a return after the tenth year of £33 to £60⁶⁹ per acre:

While certain other farming enterprises such as bananas or pineapples would offer the grower quicker and more attractive returns than tea, the market for such products could readily become saturated and we believe that tea has certain features that will commend it to many people. Tea can be integrated into a mixed enterprise with other crops and livestock, and once established should provide a welcome regular income. Other activities can provide a cash income in the early years before the tea comes into bearing.

The picture of mixed farms given by this section does not have much relevance to the proposed tea areas of southern Malawi, where the average plot size was at that time certainly less than two acres (it was 1.4 acres in 1968, NSSA 1970). Difficulties were in fact foreseen, given the small holding sizes in the south:

Unless there is a substantial increase in the yields of food crops through better cultural methods, improved varieties and the use of fertilizers, they are unlikely to be able to plant more than 0.25 to 0.05 acres of tea. . . .

As far as the estimated returns were concerned:

3). Our information leads us to believe that returns of the order quoted above [£34 to £45 per annum at maturity after cesses] will be a sufficient inducement to a man to grow tea and to remain in his village.

4). Because of the absence of a developed cash economy, we have taken cognizance of the fact that growers will probably be unable to make any initial financial contribution towards the scheme, but we have been assured that a man's own labour and his family ties will be sufficient to ensure that he continues to maintain his tea plot in a satisfactory manner. It would always be preferable for growers to pay a deposit. . . . (CDC 1963:56)

Differences between freehold, trust, and public land were recognised with regard to security of tenure and heritability, and an assessment was made of the implications of matrilocality and matriliney on the incentive to invest. However, it concluded that "In normal circumstances security of tenure for tea growers can be achieved within the framework of existing legislation and African law and custom" (with the exception of some attention to the African Wills Ordinance) (CDC 1963:8).

It was anticipated that special research "associated solely with the smallholder" would be necessary, which could be carried out by the Smallholder Tea Board with the advice of the Tea Research Station, until the output of smallholder leaf allowed a formal relationship with the Tea Association.

The possibilities of a nucleus estate, the main advantage of which was to provide factory capacity if enough were not otherwise available, but also a minimum and smooth throughput, training, development of new techniques, and profits with which to service loans, were discussed. It was concluded, however, that such an estate would take most of the available land. The establishment of a factory was not considered necessary until there were 400-500 acres of smallholder tea within a ten-mile radius, plus a further 300-350 acres in prospect. Nevertheless, "persons of authority in at least five commercial tea companies had mentioned the possibility of expanding their factory to cope with African-grown leaf if satisfactory contracts can be negotiated." (Ibid.)

5.1.3 Pilot Stage

A start was immediately made on a pilot phase, and an approach made to CDC for financial backing and assistance in management. A Special Crops Officer (Tea) was appointed. The SCO had no formal agricultural training, although he had considerable practical experience with planting tea in Nyasaland. He had begun his career in the government agricultural department on the Tea Research Station, and later became the District Agricultural Officer in Cholo. He had been prominently involved in the annual conservation campaigns, which were particularly intense in the Cholo area in the early 1950s. A number of more senior officials from the Department of Agriculture have commented that while he was an excellent subordinate, they thought he might be unsuited to head a large project: "a doer rather than a manager," and "As PAO Southern Provinces, I had to rule . . . with a rod of iron," were among the comments.

Nurseries were established in both the southern and northern regions. Funding for the work up to 1968 was provided by the British Government through the Malawi Government; from 1967 CDC loans have covered the costs on nurseries and planting materials, while the Malawi Government has covered the costs of extension staff, and British aid has paid for "tea extraction roads." Second and third phases were agreed with CDC (1972-1978 and 1979-1984, respectively), and a factory was established with a loan from the same source in 1974.

The first smallholder plots were established in 1964/65, and by 1965/66 some 72 acres had been established in the south, with less than five percent losses, and five acres in the north with "up to 30 percent losses in the year after planting in spite of what were apparently quite fair standards of husbandry in some cases" (CDC 1967:1). Progress in the pilot stage was reviewed favourably in the Phase I feasibility study, despite only three years of experience and the establishment of some 72 acres in the field up to and including the planting year ending June 1966, which in the 1966 crop year yielded 356 kgs of green leaf. This was a far less substantial pilot phase than had been undertaken in Kenya prior to CDC's involvement.¹⁰ The Smallholder Tea Authority was established by an order under the Special Crops Ordinance (No. 27 of 1963) in 1966. In 1967 CDC reported on the possibility of funding the project, and CDC funding for the first phase (1967-1972), to comprise 1900 acres, was sanctioned.

5.2 Phase I 1967-1972

The original proposal had envisaged parallel expansion in both the north and south, and this continued. The CDC loan, of £220,000, covered the costs of planting and leaf purchase and collection, but it was envisaged that the government's contribution to the costs of headquarters staff, housing,

transport, extension staff, and feeder roads would be slightly more than this. The feasibility study urged the establishment of a board, on the lines of the original 1962 mission report, modeled on the Central Province Tea Board in Kenya, with powers to organise and regulate tea growing by Africans; it considered it essential that:

tea rules for the guidance of growers be drawn up and promulgated. An undertaking to observe the rules should be a condition prerequisite to the issue of a license and breach thereof result in the license being withdrawn. (CDC 1967:2)

The STA was established in 1967. A nucleus estate was not envisaged, and in all three areas the team was:

satisfied that growers' leaf produced under these proposals can be handled in estate factories with spare capacity or which are prepared to expand their capacity to meet these requirements. We do not envisage therefore the necessity to construct factories specifically to process the growers' leaf, although this may require consideration at some future date if African smallholders' tea growing areas are expanded beyond those now proposed (ibid.:3).

The financial return to growers, after taking into account their own labour, was estimated at 7 to 12 percent, depending on the rate of interest chosen. More than half the total cost of the project would be borne by the government, however, and was not costed against the project.

The feasibility study discussed the appropriate planting material, particularly the relative merits of vegetatively propagated (VP) material, and the continued use of two-and-one-half-year-old stumps. Vegetative propagation of tea was being innovated by commercial estates in Kenya in the 1950s; cuttings from single bushes, with genetic makeup identical to each other and the mother bush, were multiplied and tested. Elite lines (clones) were selected on the basis of such agronomic characteristics as quality, yield, ease of establishment in the field, disease and pest resistance, and so on. As a reproductive technique it promises not just more uniform planting material, but the selection of specially desirable genotypes. Commercial estates in Malawi adopted the practice in the late 1960s, using clones selected by the TRF, mainly on the basis of quality. Despite supporting the adoption of clonal (or VP) planting by smallholders in Kenya at this time,⁷¹ CDC did not think this technique was suitable for Malawi conditions.

There must certainly be a future for the much more cheaply produced vegetative material from high yielding selected clones as compared to the more expensive 2 1/2 year old

stump produced from high yielding grafted clonal seed bearers. The choice turns at present on the behaviour in the field in the first two years. Until techniques are further perfected, even with good mulching and December planting, there is a need for a robust plant with long tap root so that it can quickly utilise the moisture at a depth of 2 ft or more in the soil and not have to suffer the drying out which takes place in the top 12"-15" (CDC 1967:17).

Since it started in 1967, the area under smallholder tea in Malawi has expanded at a far lower rate than in Kenya, but progress was apparently sufficiently satisfactory for CDC to sanction Phase II in 1970, two years before the completion of the first phase. Output of green leaf was well above target every year from 1966/67 to 1970/71, although from that year until 1985/86 the target was exceeded only in 1973/74; so it is perhaps fortunate that the agreement to Phase II was negotiated in 1970. The better-than-expected performance in the early years led to an upward revision of yields anticipated from smallholder tea, which were used in setting targets (see Table 4). Planting, however, was falling behind. In the south, by the end of the 1971/72 planting year, 1,831 acres had been planted compared to a target for that year of 2,090, while in the north, 116 acres had been planted compared to a target of 185.⁷²

The subventions from the Malawi Government, a considerable part of which were to be provided by the British Government, allowed CDC to be confident that there would be a financial rate of return to its loan, while providing the grower with an adequate incentive. Nevertheless, it was clearly a project that was economically marginal, and the agricultural difficulties in many of the proposed areas were such that "very careful management during the first two years of establishment will be necessary" (CDC 1967:7). While this seems to have been appreciated in the Ministry of Agriculture, the political emphasis was sufficient to push them into going ahead. I have discussed this pressure above, and the price of going against such pressure on the grounds that the project was unlikely to be viable should not be underestimated.⁷³ However, an interesting response was received to the question of why such an economically marginal project should be allowed to go ahead or why, given that it went ahead, it was allowed--somewhat later, when it was clearly heading for a financial crisis--to go largely uncriticised until the whole country was effectively insolvent. It is clear that, despite a number of critical reviews of the STA (e.g., CDC 1974, 1977), CDC became seriously concerned only when it became clear that the STA would be unable to meet its repayments. CDC officials implied that evaluation of the government's guarantees and financial inputs was the government's affair, and it was the inability of the Malawi Government to make its payments to CDC in 1981/82 that precipitated CDC's strong

Table 4. Projected Yields of Smallholder Tea in Malawi

Age	Projected Yield of Smallholder Tea		
	Phase I	Phase II	
	lbs/acre ¹	lbs/acre ²	kgs/ha ³
1			
2			
3	360	400	448
4	720	850	953
5	1000	1400	1569
6	1620	2000	2242
7	2160	2700	3026
8	3240	3500	3923
9	3780	4300	4595
10	4500	4600	5156
11	4500	5000	5604
12	4500	5300	5941
13	4500	5500	6165

Sources: 1) Phillips and Cox 1967
 2) Smith et al. 1977
 3) Smith et al. 1982

intervention in the affairs of the scheme. Nevertheless, there was a feeling in the government that CDC would only support a viable project, given its reputation for commercial orientation, and would not encourage the government to support a project that was not "viable." Thus there is an implication that the government's input, which is made explicit, if not costed, in the CDC feasibility studies, is in some way justified by CDC's support for (its part of) the project. Certainly government officials looked to CDC, which made regular monitoring missions, to warn them if things were going wrong with the project.

5.3 Phase II 1972-1978

By 1972/73 planting under Phase I and II was some 450 acres behind target in the south and 650 acres behind target in the north (CDC 1974). This led to underdrawing of the CDC loan, and gave rise to a "reappraisal" of the STA with the aim of "rephasing the loan" (CDC 1974). Somewhat surprisingly, the GM and Secretary of the STA were among the four members of the reappraisal team; the others were an agricultural consultant to CDC, and a CDC accountant. The problems were minimised: "Over both areas, and despite the setback last season caused by the

very poor planting rains in Mulanje, 81 percent of the target has been achieved over the six year period" (CDC 1974:2).

5.3.1 Reappraisal in 1974

A number of interrelated reasons were given for the poor progress:

Several factors can make precise attainment of estimated annual planting difficult, the principal ones being the "human factor," availability of land, availability of planting material and seasonal [sic] weather, all being interrelated (ibid.:2).

This report gives a flavour of the explanations offered. Growers were apparently "over-optimistic" in their plans stated three years ahead when management had to lay down nurseries, and land prepared for tea planting "is sometimes left unplanted or used for other crops." There was competition from food crops except where unused public land had been made available specifically for tea growing. Also, "it appears to be easier to encourage tea planting by neighbours in compact blocks . . . thus making management and leaf collection easier" (ibid.:3). Poor early rains uncover a "natural tendency by farmers to give priority to their food crops. Not only is the planting season shorter so there may not be the time to plant both maize and the hoped for area of tea but fears of a bad season often means that land intended and prepared for tea is planted with maize" (ibid.). The shortage of planting material was not attributed to poor planning and management, but to shortage of seed, and difficulties in finding sources of soil for poly-pots. There were also high infilling requirements, as many young plants died in the first years.

The infilling rate of over 35 percent from 1968 to 1973 (5 percent had been allowed for in the original appraisal) increased the indebtedness of the growers by the cost of the additional plants and reduced the availability of plants for new planting. Excuses were again offered: "Figures for infilling are exaggerated, since some growers use part of the infill issue for extending the planted areas," and "the general impression gained was that infilling was a real problem but not as much as the 40-50 percent level suggested by the 1972/73 figures." Besides, "maintenance was poor." But in the next four seasons, infilling as a percentage of the previous year's new planting was still high. (See Table 5.)

The outturn from the STA nurseries was also unsatisfactory. Instead of 100,000 stumps per acre of nursery, which allowing for 30 percent culling would give 70,000 plantable stumps, the STA nurseries were averaging 52,000 issued stumps, with virtually no

Table 5. Infilling as a Percent of Previous Year's New Planting

<u>Year</u>	<u>Mulanje</u>	<u>Thyolo</u>
1968-69	38	34
1969-70	29	22
1970-71	27	33
1971-72	31	42
1972-73	42	51
1973-74	34	35
1974-75	36	43
1975-76	61	64

Sources: CDC 1974:6; CDC 1977:20.

culling of unsatisfactory material. More excuses were made: "The maintenance of shade has proven difficult. . . . The overhead irrigation system has given trouble. . ." Production was slightly below target (see Table 1), but had not yet become a serious problem given the above-target performance of the first few years. However, overall performance figures disguised what might have been seen as an emerging problem: younger areas were producing well above estimate, but older areas considerably below. Three of the largest and oldest areas, which should have produced 77 percent of the total production, in fact produced only 57 percent, the difference being made up by numerous small and more recently developed areas. It was suggested this was because "either the heavy crop from older areas [is] beyond the the plucking capacity of the grower or the STA estimates are optimistic in respect of tea approaching maturity" (CDC 1974:12). Production in Tholo was consistently below estimates, but here too the problem was to some extent rationalised away. Of a test plot it was said:

These are disappointing yields, which may be partly due to the steep site and the fact that tea was planted on very deep bench terraces, possibly on subsoil; and to the fact that it has been surrounded and part shaded by large pine trees--now being removed (ibid.:13).

This reappraisal noted a number of other problems, including the poor outturn of stumps from nurseries, the high infilling requirement, the tendency toward yields lower than estimated and the need by the end of the project for extra funds to make up for the higher requirement for infills. But it anticipated that, when the smallholder tea factory was processing the leaf, higher prices would be received:

It is confidently expected that prices received for tea from this factory will be above Malawi average owing to the higher plucking standards maintained by smallholders and the field establishment of improved polyclonal jat material. Our attention was drawn to the influence of plucking standards by the Tea Research Foundation, particularly evident in the case of two neighbouring factories, where under similar processing conditions the higher plucking standards at one estate resulted in prices on the London market up to 9p per kg above those of the other (ibid.:14).

This must have been one of the last occasions when the TRF made this recommendation; by the end of 1974 the evidence on the economics of plucking standards had been presented (Palmer-Jones 1974), and it had, of course, been extensively discussed before. By the end of 1975 there was no doubt that TRF's policy had changed. Evidence of the type used in the quotation above is highly questionable, since it is in general impossible for all other relevant things to be equal between estates, except for the plucking standard. In fact, however, such knowledge is often the basis of strongly held views among practical people.

There was evidently nothing in the brief of the 1974 CDC Reappraisal Mission that suggested serious doubts about the viability of the project, despite the emerging problems. The main arguments and their rationalisation have been presented. A more critical approach, by perhaps more detached people, might have reached different conclusions. It may be that the presence of two of the main actors responsible for the activities being appraised resulted in greater credibility being given to the explanations offered, but as the use of TRF evidence suggests, similar conclusions might well have been reached by a different set of people.

5.3.2 Examination of Progress and Appraisal of Phase III

A number of interrelated reasons for poor performance were given; first, the outturn of the STA stump nurseries was much less than projected and unit cost was consequently greater. Partly as result, many nine-month-old pot plants were issued to growers, and also there was a tendency to issue substandard stumps. In 1974/75 "the central nursery met only 36 percent of the demand, the balance being made up of nine-month pot plants (36 percent), material purchased from estates (16 percent) and some 245,000 stumps (12 percent) dispatched over the long haul from Kawalazi in the Northern Region where the nursery had a considerable surplus" (ibid.:18-19). In 1975/76, 47 percent was met from stump nurseries, 26 percent from pot plants, and the remainder from estates. The higher number of plant deaths that inevitably followed the use of more vulnerable, lower quality planting material led to a greater need for planting material for infills, which, in turn, put further pressure on the supply.

5.3.2.1 Nurseries

As noted above, the Reappraisal Mission in 1974 had drawn "attention to the unsatisfactory outturn from the central nurseries which were producing about 50,000 stumps per acre instead of the projected 70,000 forecast" (CDC 1977:18), and recommended the appointment of a specialist nursery officer. Table 6 gives the outturn from various nurseries during the early years of Phase II, which shows that things did not improve sufficiently following the appointment of the Nursery Officer to rescue the 1974 nurseries from performing as badly as their predecessors.⁷⁴

Table 6. Nursery Outturn of Usable Stumps

<u>Nursery</u>	<u>Acres</u>	<u>Stumps Produced</u>		<u>Usable Stumps</u>
		<u>Year</u>	<u>Numbers</u>	<u>Numbers</u>
Pumula 1972	25.0	1974/5	945,700	38,200
Pumula 1973	24.3	1975/6	429,500	17,700
Nakarumba 1973	11.0	1975/6	149,100	13,550
Pumula 1974	30.0	1975/6	710,000 ¹	23,700
Pumula 1974	30.0	1976/7	1,206,700 ²	40,200
Nakarumba 1974	10.0	1976/7	150,000 ²	15,000

Notes: 1) Issued at 18-20 months.

2) Estimates based on 1976 nursery counts.

Source: CDC 1977

Unit costs were 10.9 tambala per stump, while the amount charged to the grower's loan accounted for only 4.5 tambala. This was partly because of "substantial and unforeseen inflationary trends in input costs which have far outstripped any compensatory effect from increased tea prices" (ibid.:1), although it "should be possible to affect economies by improving efficiency" (ibid.:i). It was accepted that the 1975 and 1976 Pumula nurseries were failures, as were the 1974 and 1975 Nakarumba ones. I have seen no clear explanation of these failures, although inadequacies of the irrigation system and problems with the soil have been mentioned. The CDC mission in 1976 mentioned that shade had been too dense, and planting after germination procedures had been unsatisfactory. It is the responsibility of management not only to solve problems, but also to identify them. Thus, whether the problems were in husbandry practices or technical soil or irrigation problems, they were the ultimate responsibility of management, and beyond the management,

the Board of the STA had the responsibility to monitor the management's performance, and to set things to rights if they went wrong.

5.3.2.1.1 Infilling

Although in the Appraisal of Phase II it had been expected that infills would have to be provided at the rate of 25 percent in the first year and 10 percent in the second, far higher rates were required--especially in Thyolo, and in the years after 1971/72 (see Table 5). A number of interrelated factors seem to have been involved in this problem. There is little doubt that the quality of planting material became very poor, as the director and agronomist of TRF pointed out to the general manager of the STA:⁷³

We observed that the general standard of stumps supplied to the grower for infilling this season was below the accepted size . . . frankly few if any of the stumps we saw reached the minimum requirements. This factor must be an essential prerequisite for success when infilling and as it has been neglected, only extremely poor success can be expected from the 1976/77 infilling programme, or from any new plantings with this standard of material (Director TRF to General Manager, STA, 19 January 1977).

Poor quality planting material must have been a factor, although the 1976 mission blamed the native practice of interplanting beans with the young tea. No evidence that this was harmful was provided:

Planting standards are good, as no material is issued unless the land is properly cleaned and holed. Maintenance after planting is generally satisfactory although the degree of weeding is variable; poor maintenance in the first year is certainly an important factor in losses requiring infilling in the second year. The practice of planting beans between young tea plants at the end of the rains (as is done after maize) requires careful monitoring as this could compete severely for moisture (CDC 1977:21).

5.3.2.2. Extension into Marginal Areas

Part of the problem was that the STA had extended its planting into even more marginal areas. This had several harmful effects. First, new areas required more roads, often to serve very small acreages of tea:

Unfortunately, over the past two seasons five new areas have started development in Thyolo; two of these are public land and can therefore be expected to make rapid progress, but the other three are not easily accessible and account for

only 16 acres of tea in all. In Mulanje three new localities have been opened in the last two years but two at least are in areas of very favourable rainfall" (CDC 1977:3).

The dispersed pattern of development involved more travel, to supervise planting; to deliver planting materials, fertilizers, and so on; and to collect green leaf. Extension and supervision would be more thinly stretched. Second, some of the new areas were definitely unsuitable for tea growing using existing techniques, giving rise to high rates of infilling and poor repayment of loan accounts.

Part of the explanation for opening up marginal and nonviable areas was political (CDC 1977:3). Some people aimed to gain access to public land, and/or to gain a form of title to customary land that would not be available to them unless they planted tea. There was competition for public land, which increased the area available to an individual in a highly land-scarce environment, while on customary land, the planting of tea may have increased security of tenure:

To successful applicants the granting of tea growing rights in this way effectively either increases their total farmed acreage or, in the case of landless applicants, constitutes the allocation of a holding. In areas of relative land shortage such as Mulanje and Thyolo the acquisition of such rights [is] highly prized, and some farmers have managed to acquire more than they can effectively manage. Indeed a significant problem with the public land development has been that initially the mechanism for allocating tea growing rights was not effective enough to ensure that the growers received no more than the two acres that were thought to be the optimum able to be handled by an average household. It is for this reason that the District Tea Growers Committees have been replaced as allocating bodies by a committee nominated by the Minister for the Southern Region. . . . [C]urrently there are many instances of poor plot management by those who have either succeeded in obtaining holdings larger than recommended or whose primary occupation is outside farming (CDC 1977:7-8).

It should be remembered that this was a period of rapid increase in the involvement of Malawian politicians in estate and agricultural development elsewhere, most prominently in the tobacco areas of the North and Central Regions (Kydd and Christianson 1983), but also in the Lower Shire (Coleman, interview, December 1986). However, as the CDC 1976 mission noted, there was not an excess of applicants to grow tea, and few had been rejected (CDC 1977:8). This may in part have accounted for the allocation of holdings larger than desirable, but may also have been the result of desire to meet planting targets on

the part of the management of STA, causing it to be less critical in considering new applications than was in the interests of the scheme as a whole. The somewhat sluggish enthusiasm for tea must be seen in the light of the economic effects for the smallholder, which are discussed below.

5.3.2.2.1 Stumps or Clones?

Underlying the whole problem of planting material, nursery costs, and infilling was the decision to use stump plants and centralised nurseries. It is arguably the case that an alternative approach should have been considered in the light of the escalating costs and poor performance, even if there were overwhelming reasons initially for adopting this strategy (which closely followed the practice, some 15 years before, during the early stages of smallholder tea growing in Kenya). I have given above the arguments used in favour of the chosen system, and it is worth noting that the Director of the TRF is quoted as supporting this strategy in 1976:

The general policy of STA is to provide seedlings (stumps) of about 30 months age, derived from polyclonal seed produced in seed gardens which are a mixture of 6 to 20 clones selected and recommended by TRF. STA considers that these stumps are the most reliable planting material, giving tea of satisfactory yield and quality, easily produced in centrally managed nurseries, less susceptible than VP material to inadequate maintenance after planting out and cheaper to transport to the farmer by virtue of their being dispatched bare-rooted instead of in heavy polyethylene bags. This policy appears to be supported by the director of TRF who wrote in 1975--"The STA decision to use this type of material in the early stages of the scheme is undoubtedly the right one. Nevertheless there is no doubt that the use of clones vegetatively propagated does definitely offer advantages in even better quality and possibly yield" (CDC 1977:17).

It is a curious oversight for the director not to mention that there were clones, such as SFS 150, that had satisfactory quality but apparently very marked advantages of yield and ease of establishment (Palmer-Jones 1974); these and similar clones later became more prominent in the TRF breeding programme. The failure to promote such clones must have been due to the overriding emphasis in the TRF plant breeding programme on quality rather than quantity. This inflexibility, and perhaps also caution about developing or changing recommended genotypes, is not untypical of plant breeding programmes, and not wholly without justification. Nevertheless, the KTDA had adopted clonal propagation by smallholders in the mid-1960s. Even growers raised the question of using VP material. In October 1973 the District Committee Meeting Minutes note:

Growers' Representative reported that several growers had expressed a keen interest in planting clonal VP material particularly in the "good" area. Mr. Stephens [the Chief Technical Officer] stated that this would have to go before the Authority Board because of the extra expense involved, and growers would have to be very carefully selected.

at the next meeting (December):

Mr. Stephens reported that the request to grow clonal material (VP) had been put to the Authority and word was awaited. CDC were not keen on the idea at this stage, due to the greatly increased costs in production and transport of clonal material.

It seems that the supposed advantages of both centralised nurseries and seedling material played parts in the decision not to let smallholders themselves develop techniques of producing planting material, although it seems that such techniques are now fairly advanced after only a few years of development by TRF. The 1977 CDC report concludes:

STA has not so far produced any VP material; to do so the VP nursery site should be nearer to tea areas in the higher rainfall areas of Mulanje than is the Pumula "central" nursery. For the time being STA should rely on estates to produce limited quantities of VP material (CDC 1977:18).

It should be noted that estate planting with VP material during the 1970s had not reached the standard and performance expected by TRF. Nevertheless, two additional factors seem to have played a part in the concentration on seedling and stump material: first was the technical conservatism of the management of STA, which, as I have pointed out, was supported by some of the officials of the Ministry of Agriculture on the grounds that smallholders should use established, "tried and tested" techniques. It is perhaps relevant that the general manager of the STA had no technical training. Second, it is possible that the predominant opinion was that the horticultural abilities of Africans would not enable them to employ such advanced techniques--after all the estates were not finding them particularly easy. Centralised nurseries may also have seemed more convenient to STA management, especially as the main Pumula nursery was very close to the general manager's house and the headquarters of the STA, although otherwise in an area that, except for the ready availability of water for irrigation, was quite unsuitable, being well away from any commercially viable tea growing area. CDC argued, "The principle of a single large central stump nursery is sound, provided supervision is efficient" (CDC 1977:18). This was at least partly a case of the use of irrigation to compensate for inadequate agricultural

abilities (although the irrigation system does not seem to have been entirely reliable).

The thrust of these criticisms is to raise questions about the performance of the management of STA. Nevertheless, a number of "experts" concurred in the technical decisions, even if they were somewhat critical of the way they were carried out. I will return to this issue in the conclusion, when I discuss whether a serious case can be made that the management of STA was seriously deficient and could and should have been either much improved or replaced at an earlier date, and, if so, why this did not occur. It is on this issue that the Board of STA, the representatives of the tea industry, and CDC in particular, should be judged.

5.3.2.3 Overplucking or Underplucking?

The other main factor used to explain the poor performance of smallholder tea in the mid- to late-1970s, was the question of "overplucking." This refers to plucking tea while it is too young and plucking more than is desirable in the early years; it is thought to have long-term detrimental effects. As the agronomist from TRF pointed out, overplucking could account for the pattern of performance achieved by STA of exceeding targets in the first few years, when the bulk of the tea is young, but gradually declining below targets as the average age increases (correspondence between director and agronomist TRF with GM STA, 8 April 1976, and 19 January 1977; see also CDC 1977:21). Thus:

the grower starts earning money as soon as he has leaf for sale. It is therefore inevitable that every grower will take all steps possible to make the most of the immediate potential without taking into account any long term detrimental effects this may have. . . .

The grower's natural tendency to harvest everything possible as soon as it is available is having a long term cumulative weakening effect on the bushes. With this system the yields up to the 4th or 5th year will be above the estimate as the wood development at the pruning heights is fairly good. . . . estimates less than yield for the first five years, thereafter falls away" (Agronomist, TRF, to CTM STA, 8 April 1976).

Overplucking in the early years may be the result of the desire of growers for income and the failure of extension workers to convince growers of its harmful effects. As the tea matured, however, it was argued there was a tendency for growers to "underpluck," or "not keep up with the flush" during the rains (CDC 1977:21). Such underplucking of more mature tea during heavy flushes may be due to growers' choosing to increase the productivity of labour by plucking on longer rounds (see Palmer-Jones 1977a, and 1987, on the relationship).

The tendency to blame the grower for the problems must be seen in the light of the returns to growers. As I have pointed out above, there are possibilities for myopic rationality to occur under the pricing system that was employed, especially given the rather formalistic representation of growers on the board of the STA and the apparently arbitrary way in which green leaf pricing was determined. The 1977 CDC report contains a considerable amount of analysis from the smallholders' point of view, using the preliminary results of the Agro-Economic Survey conducted in 1971/72 - 1972/73.

There is not time to make an extended critique of the methods and analysis of the Agro-Economic Survey (AES) of smallholder tea growers, or of the relevant aspects of the 1977 CDC report. The analysis that resulted from the AES was based on an unsatisfactory sample and was limited, consisting largely of calculations of (gross margin) budgets and net present values using a narrow range of yield assumptions. While the broad aim of these studies was to estimate the incentive to growers, neither draws very firm conclusions, and neither pays much attention to the opportunity cost of growers' labour, credit, and so on. Nor do they take much account of variations in circumstances among the different smallholder tea areas, or among smallholders themselves. Thus no yield differences are allowed between public and customary land, or between land that had previously been forest as compared to annually cropped soils. They conclude that there is not a strong incentive to transfer customary maize land to tea, but do not address the issue of decisions about labour or credit allocation by smallholders once land has been put under tea.

Given the long delay in achieving positive cash flows from tea planting (especially if labour is hired), labour inputs in the early years will probably be fixed more or less by the instructions of STA staff, since growers do not have the experience themselves to make marginal adjustments. (These issues are discussed below.) As the tea matures, growers will be in a better position to judge whether the return is worth their labour and other inputs. The economists concluded that "for the public land growers, with their low opportunity cost [of land], the economic returns from tea are substantial," and for customary land growers "the modest average economic gain plus the extra stability of income from growing tea may prove highly attractive" (CDC, 1977:14). Even the fact that a very high proportion of growers were unable to repay seasonal credit for fertilizer within the season did not alert them to the marginal nature of returns (CDC, 1977:16).

In 1974 growers' discontent was voiced: the Growers' Representative asked "Had there been a considerable rise in the price of fertilizer would there any [sic] rise in the price of

green leaf for growers?" (District Committee, October 1974). The growers were increasingly concerned about their low returns. Meetings were organised at the request of a number of growers. As one put it:

It is true there is no understanding between the District Committee of the STA and the growers because of the subject concerning bonus as we were promised to receive bonus every year that's why we don't trust these leaders . . . [who had been] preaching to people in the villages to plant more tea and definitely there is more tea all over and roads, yet you cheated us because people have spoiled their gardens in getting them planted with tea. . . . I desperately need money to help me pluck, weed, prune my tea . . . [T]he Ngwazi who introduced this crop to us [said] that we in this part of the district should have more money and be rich. But since we started working on this crop we have spent most of our money and lost all what we possessed in the form of wealth such as groceries, stores and others. . . . [T]he District Growers' Representative] used to encourage people that if you plant tea you will be rich and now we are not rich and chairman seems that he is betraying us the people who elected him (Minutes of meeting 31 November 1976).

As the CDC Mission in 1977 noted, money that could have been used to make second payments had to be used to meet the higher costs of planting material and cost overruns of the Authority. However, world tea prices rose considerably in 1976 and 1977 and the second payment of 0.5 tambala per kg of green leaf made for leaf plucked in 1975/76 was doubled the next year. The price of green leaf was not the only issue in contention between growers and the Authority, however. The performance of instructors who were supposed to lay out the plots had been criticised, and cheating by leaf clerks was also an issue.

Mr. Lemani admitted he said most of the instructors did not know their jobs because they sat down in their houses and even pegging itself was done in a haphazard manner so that a new grower would never know what to do (Report of dispute, District Committee Meeting, December 1973).

Mr. Chiliwe accused the buying clerk of cheating and the excess weights given to the Nalipiri committee particularly the chairman . . . 5 lbs stolen from every bag weighed" (Letter from Senior Technical Assistant, Mulanje, to General Manager, 15 February 1975).

This latter problem was rationalised, as in later years, by reference to the system of deductions for wet leaf, whereby, when very wet leaf was purchased, a deduction--5 percent at this time--was made from the gross weight before the grower's delivery was recorded. This remained a system that was open to abuse.

5.4 Factory 1974

I have not seen any feasibility study for a factory, and given the apparent excess of estate factory capacity (Palmer-Jones 1974), it is questionable whether there was any need for one. As pointed out elsewhere, however, the estates consistently asserted they did not have long-run spare factory capacity. If it was desirable to have a smallholder factory, though, purchasing a redundant estate factory might have been preferable to a green field site. It is possible that the impetus for a new factory came from the pursuit of private utility by the management of STA, the desire to imitate, and the apparent political desirability of such a symbol of political development (for example, see Kydd's analysis [1984a] of the the concentration on palace building and Kamuzu Academy in the 1980s, despite Malawi's financial crisis). If the impetus instead came in response to difficulties in dealing with estates over leaf contracts, the alternative of more aggressive bargaining with the estates could have been seriously considered.

5.5 Phase III 1978-1984

The decision to go ahead with the Third Phase of the project, despite rather unfavourable technical and economic appraisals (CDC 1977; ODA n.d.), seems to have been made largely on grounds that it would make the whole project (from which the Northern Region developments had been separated) more economic, or less uneconomic. A significant part of the problem was the high overheads of the Authority, which related to the extent and dispersed nature of smallholder tea. Extending the area planted and concentrating on more favourable areas would increase throughput without increasing overheads.

The mission recommends the continuation of Phase II and extension into Phase III as this should improve the viability of the smallholder tea project. The estimated returns will, however, be dependent on improvement in nursery efficiency and tighter control by management in confining expansion to the most suitable areas and by exerting discipline, under the licensing system, on inefficient growers (CDC 1977:iv).

One final point to make concerns the returns to any future investment which may be authorised under Phase III. It is to be expected that the economic returns will exceed those to the completion of Phase II. In part this should result from spreading the overheads of operating STA and Mateco. But principally it should result from the improvement in planning and organisation which has been somewhat deficient in Phases I and II (ODA n.d.:7).

The Reappraisal Mission of 1982 provides some insight into the developments of Phase III of the project. The planting programme had been for 162 ha per year in Mulanje and 60 ha per year in Thyolo, but from 1977/78 to 1981/82 Mulanje had achieved only 53 percent and Thyolo only 64 percent of their targets. At the same time green leaf production averaged 78 percent of targets. The Mission suggested a number of reasons:

- 1) . . . individuals often fail to plant the full hectareage for which they have requested planting material. But in general there does seem to have been a general slackening of interest by new growers.
- 2) There have been administrative delays in the allocation of public land to prospective growers in Thyolo.
- 3) Whereas growers on public land can develop rapidly as soon as this "extra" land is allocated, the customary land inevitably develops more slowly over a period of several years, as they give up alternative crops (notably maize) to plant tea.
- 4) Establishment of full stands of tea bushes has proved difficult, and undue effort has been directed to infilling for at least two years after planting, amounting to 50 percent. This appears to be due in part to inadequate field maintenance, but the unsatisfactory quality and outturn of plants, noted by previous missions, has certainly been an important factor (CDC 1982a:3).

In addition, it was suggested that because of the high infill percentage, the average age of tea was younger than recorded, with consequently lower yield potential. Also, "Plucking has not generally kept pace with the main flush in January to March. There is need for a sustained drive by management on efficient plucking" (ibid.:4); "weed control is variable. . . . The recommended rates of fertilizer [which the Mission suggested reducing] are not in fact being supplied by the majority of growers. Since STA stopped the practice of seasonal loans fertilizer use has dropped alarmingly" (ibid.:6).

The world price of teas peaked in 1977 and thereafter dropped dramatically every year to 1980; there was a slow recovery in the two following years. The green leaf price to growers was kept constant from 1977/78 to 1980/81 while inflation, which had held at a relatively low level for much of the 1970s, accelerated rapidly from 1977. Growers' costs for fertilizer rose. The minimum agricultural wage was held constant from 1974 to 1980 at 26 tambala per day, when it was increased to 30 tambala, and then to 50 and 58 tambala per day in 1981 and 1982. All this constituted a big squeeze on growers' incomes, and a number of tea companies started to make losses as well.

5.6 Crisis and Response 1980-1986

By the middle of 1981 the STA was in a financial crisis, partly as a result of the fall in the world price of tea in the late 1970s and early 1980s, despite considerable forward selling of teas. Other factors contributing to the crisis were the inflation of costs and failure to achieve acreage and yield projections that were required for financial viability.⁷⁶ In the late 1970s the area planted and the yield of smallholder tea had fallen behind the projections, and the price paid to smallholders for green leaf had failed to keep up with inflation. In 1981 it appeared that the STA would be unable to meet its loan repayments and to finance the purchase of fertilizer to be distributed with seasonal credit to smallholders while paying an acceptable price to growers for green leaf. Together with the fiscal crisis facing the Malawi Government, which had guaranteed the CDC loan for the scheme, this meant that the loan to CDC would be in default. The STA was able to mount considerable support for alleviating its fiscal crisis. The Minister for Local Government stated in Parliament:

I would like to support this resolution [to approve finance of K1 million for the STA]. . . . We all know the role of tea in our economy and above all we know that now with His Excellency the Life President's guidance, tea growing is no longer a monopoly of the few. It is the privilege of the many (Hansard 26 June 1981).

CDC, on the other hand, was worried for its investment:

Reported: by Mr. Beacham [CDC representative on the Board of STA] that CDC was not likely to agree to borrowing of more . . . unless CDC can be assured that proper steps are being taken by the Malawi Government to provide adequate and proper long term financial support for the Authority in order to safeguard the Corporation's substantial investment in STA (STA Staff and Finance Committee Minutes, 10 August 1981).

The General Manager pointed out that "the STA's record had hitherto been good, and to date it had always made a second payment to growers" (Minutes of Meeting, Lilongwe, 30 November 1981)--which was not consistent with the fact that second payments did not begin until 1975/76.

A number of responses followed (described below) that, together with the dramatic rise in the world price of tea in 1983 and 1984 (subsequently reversed), mended STA finances and allowed a large increase in the price paid to growers. A dramatic improvement in smallholder yields followed, and the STA output exceeded its target for green leaf production in 1985/86 for the

first time since 1973/74. Permission has been given for the STA to recommence planting, in response to popular pressure from existing and potential new growers. In 1985 the world price of tea fell again, and in the current year, despite the large increase in green leaf production, the financial surplus available to STA will only allow a far smaller green leaf price than in the previous two years. It remains to be seen whether this reduction is passed on to the growers and, if so, what their response will be. The STA, then, is neither a success nor a failure; it staggers along.

In response to the crisis, to begin with, seasonal credit for fertilizer for older tea was discontinued (by directive of His Excellency), and most smallholders did not apply fertilizer in that or the following two years, although fertilizer was available for cash purchase from ADMARC depots. Work was halted on roads and incomplete bridges. A mission that had been planned in conjunction with CDC for 1982, to appraise a second smallholder factory,⁷⁷ was converted into a Reappraisal Mission, the membership of which, not unlike the 1974 Reappraisal Mission, included two current or former members of the board of STA, who might in part be held responsible for the financial problems facing the STA. The Mission's report, in 1982, made recommendations for rationalising the scheme, recommendations that included, among other things, a halt to further new planting, continuation of the policy of not providing fertilizer on credit, maintenance of the policy of "fine plucking," and a renewed emphasis on disciplinary action against poorly performing growers. The Reappraisal Mission argued against increasing the price of green leaf (GL) on the grounds that:

[R]eturns to efficient growers are considered to be sufficiently satisfactory as to allow STA to hold the GL price to the grower fixed in money terms until 30th June 1984 (CDC 1982a:iv).

Net average incomes for growers were not given; gross incomes in 1981-82 were about MK120 per grower, and net of capital cess, income was nearer MK105.⁷⁸ Fertilizer and labour costs would have to be met from this sum, bringing the average down to around MK50 per grower per year. A grower with mature tea and average yields might be expected to have earned MK180 per acre before paying labour costs, which could be expected to be about MK80 (returns to growers are discussed in more detail below). Of course many growers--nearly 70 percent in 1981/82--did not achieve target yields.

By implication, the Reappraisal Mission largely blamed growers for the financial problems encountered by the scheme, although a recommendation for restructuring the STA staff incentives implied that there were some deficiencies here. The Mission reported that "Plucking has generally not kept pace with

the main flush in January to March" (CDC 1982a:4), and that "in February and March underplucking is fairly common" (ibid.:9). One of the members of the Mission had recorded in the minutes of the STA board that "at present the only way smallholders could receive higher prices for their leaf was by plucking more leaf in order that the Authority could benefit from the greater efficiency that the higher volumes could bring (STA Board Meeting Minutes, 3 August 1982). As we will see below, there was little if any more leaf to pluck.

At the time the Reappraisal Mission argued that:

Indeed these returns are considered to be so satisfactory as to allow the STA, whose financial plight is extremely serious, to reduce the price to be paid to the grower by 20 percent in real terms over two years (CDC 1982a:27).

However, the STA's own evaluation assistant had reported that:

Good growers' plots have fewer vacancies, healthier plants, fewer weeds, better conservation works, and a higher plucking standard than bad growers' plots. This suggests that the main reason for the performance of bad growers is not that they are failing to pluck their green leaf, but that the green leaf is not there to be plucked (STA Board Circular 11/82, 26 July 1982).⁷⁹

While the terminology of "good" and "bad" growers seems to prejudge the issue, the logic of the argument seems strong; indeed, it is reinforced by recognizing that lower yielding plots give fewer and probably more slowly growing shoots, which might be best plucked on slightly longer rounds, besides giving lower returns to labour. In another board circular, however, which seems to have arisen from a staff and finance committee meeting, the logic is accepted but the grower seems to be held responsible for the poor condition of the plots:

It is clear that many bad growers produce lower than expected yields because their tea plots are badly managed, and, in particular have many vacancies (STA Board Circular 22/82, 29 November 1986).

While the Mission accepted that the quality and quantity of the planting material supplied by the Authority's nurseries had been "unsatisfactory," its analysis and recommendations seem to suggest that the problem largely lay with the inadequate labour inputs by growers, to be remedied by exerting greater control over and disciplining them (CDC 1982a:iii), replacing bad growers (ibid.:iii), and having extension staff concentrate on

"convincing growers that higher production was in their own best interests." The

STA should have greater powers to take action against unsatisfactory growers. . . . [T]he greater intensity of supervision of established tea growers, combined with more effective disciplinary action against unsatisfactory growers . . . [should allow target yields to be achieved]" (ibid.:16).

A disciplinary committee was established, but it has proven largely ineffectual, probably because delinquent growers were in fact a very small part of the problem. Although not analysed by the Mission, the STA had collected information on a large sample of growers (the Green Leaf Monitoring Exercise--GLME), which showed that only 1.9 percent of plots, whose average size was not different from the sample as a whole, were completely neglected. The main problems recorded were gaps, poor plucking and weeding, and lack of fertilizers. It is argued below that the problem of gaps is largely a result of the poor quality of plants issued, and hence the responsibility of STA. The lack of fertilizers was also the result of STA policy; poor quality of plucking can be attributed in part to lack of instruction by STA extension workers. The weed problem was partly due to the lack of sufficient labour inputs, but the problem was undoubtedly exacerbated by the poor establishment and growth of tea plants, and by planting on soils that had previously been cultivated with annual crops and would therefore have had more weeds than forest soils. I will argue below that loss of production due to "delinquent" growers is probably minor, and to the extent that low yields are due to poor plots, especially to those with many vacancies, this is largely the result of being planted on impoverished soils, which perhaps should have been rehabilitated, and/or being planted with unsatisfactory planting material.

The output of smallholder tea in 1981/82 and 1982/83 fell even farther behind targets. In 1983 I presented a report whose conclusions differed in some respects from those of the CDC Reappraisal Mission, recommending the reintroduction of seasonal credit for fertilizers and the adoption of a coarser plucking standard, which had been widely, though not universally, adopted by the plantation industry in the 1970s, following an earlier study of mine. The coarser standard of plucking became policy in the 1983/84 season, although there were continuing complaints from growers through March 1984 that three-and-a-bud shoots were being rejected. In 1983 and 1984 the world price of tea soared. This enabled the scheme to reintroduce seasonal credit for fertilizer for the 1984/85 season and to make substantially higher green leaf payments, starting with the second payment for the 1983/84 season--which growers were not aware of until the autumn of 1984 and did not receive until November that year (i.e., any supply response would have occurred in the 1984/85

season). The simultaneity of these occurrences makes it hard to sort out the causes of the improvement in performance by the scheme that followed, in the 1984/85 and 1985/86 seasons.

The director of TRF had raised the question of the plucking standard with STA in September 1982 (as well as in 1976): "I feel obliged to point out that all the evidence is that insisting on a two and a bud plucking standard is not in the best interests of the smallholders nor of the future of the STA itself" (Director, TRF to GM, STA, 10 September 1982).⁹⁰ The acting general manager took this suggestion up immediately, noting that it would probably not make much difference in practice, since the plucking standard had in practice become coarser. The matter was raised at the staff and finance committee meeting in October, at which it was agreed that management should prepare a board circular on the matter. It was not until May 1983, however, that the staff and finance committee agreed "that TRF's recommendation of two and three leaves and a bud plucking standard, already accepted in practice, be adopted as the Authority's policy," and not until June 1983 that the board accepted this. The first note of the change in standard in the STA Monthly Newsletter, which growers receive, was in December 1983, when it was announced as follows:

Firstly the leaf must be of good quality plucked regularly according to a seven day round. The pluckers should pluck shoots that consist of 2 leaves and a bud or shoots with 3 SOFT LEAVES and a bud. There should be no shoots of four leaves and a bud or 5 leaves. . . . Secondly do not pluck IMMATURE SHOOTs of 1 leaf and a bud (STA Newsletter 4(12), STA, December 1983).

Growers, however, found that the policy did not seem to be implemented:

They [leaf buyers] still insist on 2 1/2 leaves⁹¹ and as a result most of the leaf which has been plucked by the grower at the end of the day is thrown out.

It is difficult for the grower to know exactly the role of the technical field officer who has been trained but cannot give a decision of sorting out of the leaf other than a buyer who has just been employed without any growing tea.

The growers say that the board of the STA has very little or no interest in their affairs since 1964 when they started growing tea. The increase of the initial payment of 10 t per kg is due to their struggle with the district chairman of the Malawi Congress Party who was requested to give way to the growers to complain to the minister responsible for the southern region. The growers have suggested to make an appeal to management through me to remember that the grower of the STA is still substantial and not an economical victim to be tied up with the present

inflation (Mulanje District Growers' Representative to the GM, STA, 19 March 1984).

The general manager's reply seems to justify the complaint of the last but one paragraph:

I must reiterate that the Authority will not accept coarse hard-stalked shoots whether they are of two leaves or three leaves or banjhi. Most complaints of buyers rejecting 3 leaves and a bud turn out to be growers looking for excuses when they have plucked bad leaf.

Although the Authority has agreed to change the plucking standard, it is not in the national interests or that of the STA to allow the quality of leaf to deteriorate. . . . The growers' interests are very much the prime interest of both the board's policies and management's implementation of them (GM to Growers' Representative, STA, 23 March 1984).

But the district committee noted:

Leaf clerks . . . are rejecting leaves of 3 1/2. All members agreed that this is happening everywhere, so they wanted to know whether soft 3 1/2 is bad leaf and whether it is possible for growers to pluck 2 1/2.

The district manager was very reluctant to give any comment about soft 3 1/2, and said that the matter would be referred to management who would give a decision over this one (Mulanje District Committee Minutes, STA 26 March 1984).

The suggestion made by the STA evaluation assistant, that it was not lack of effort on the part of growers, but lack of leaf for plucking that was the main cause of low yields, was supported by my own studies, (reported further below), which suggested strong association between agronomic problems, such as the presence of vacancies, and low yields. However, I note that the evidence suggested that it was likely that many of these agronomic problems were associated with the previous cropping history of the crop.

My reports of 1983 and 1984 suggested that low returns to effort accounted for much of the perceived reluctance of growers to comply with management requirements. This led the director of TRF, who became a member of the STA board after the previous general manager had retired, and after the appointment of an exceptionally vigorous member of the Ministry of Agriculture as Chairman of the STA Board, to mount a strong attack on some aspects of the board's policies at the board meeting of 23 December 1983. In particular he emphasised the low returns to even successful growers. The minutes of this meeting caused some controversy, and at a later board meeting they were amended. Among other changes an amended passage states:

[T]he interests of growers should always be predominant over the fulfillment of any predetermined plan of monies to be made available from CDC.

and the CDC representative noted:

that certain remarks made at the meeting had been somewhat disturbing (STA board meeting minutes, 29 March 1984).

The same initiative also involved an attack on the power of the Staff and Finance Committee, which seemed to exercise many functions properly the business of the board, and resulted in the following minute:

Resolved: that in future in view of the above any matters concerning: 1) payments to growers, 2) capital budgets, 3) operating or revenue budgets should be discussed at full board and not be considered part of the normal business of the Staff and Finance Committee. . . . (ibid.)

This restriction was raised again after the director of TRF had departed from Malawi:

Noted: that it would appear that no fresh evidence or changed circumstances had been put forward, that the board saw no reason to vary its deliberations. . . . However, Mssrs. Schwarz [the MTA representative on the Board of STA and the Staff and Finance Committee], Johns [CDC representative] and Mbalanje wished their reservations to be recorded (ibid.).

In contrast to the Reappraisal Mission, my reports have emphasised the need for changes in STA policies, rather than greater control over and discipline of growers. These proposed changes have been based on the assumption that growers' behaviour has an economic rationale which is understandable once the realities of their economic and ecological situation is known, and on an analysis of the problems caused by the structure of the STA, namely, that growers are paid average revenue rather than marginal revenue. The problems of growers with low productivity are not assumed to be such that their solution necessarily lies in discipline; rather, I have investigated them as far as is possible through a survey, the results of which seem to imply that agronomic rather than behavioural characteristics are associated with the low yields of most low-productivity growers. To the extent that growers do enjoy free rides, this is no more than would be expected from any other population under the circumstances. It is also partly the failure of STA to devise suitable means to overcome this not unnatural tendency to myopic rationality--reinforced no doubt by the low average returns to

smallholder tea--and partly other failures of STA, for example, in terms of the quality of planting material.

This account focuses attention on agronomic practices promoted by STA, in particular the suitability of the tea planting techniques for the impoverished and sometimes eroded soils of many growers. The poor quality of much of the planting material supplied by STA and inefficiencies in the delivery system² are other factors that are widely agreed to have affected smallholder performance adversely. The finding of unsatisfactory technology by STA was repeated by the Reappraisal Mission in its plan to use stumps grown for new planting to infill existing stands. Not only was this type of planting material (which it proposed to charge growers for) not suitable for infilling, even if it was well grown (which previous experience of STA nurseries suggests was unlikely), but the Mission made no suggestion that infill sites should be rehabilitated by establishing Guatamala Grass (GG) as recommended by the Tea Research Foundation (see Palmer-Jones 1983:85-91, where this issue is raised).

The output of smallholder tea increased substantially from an average 27 percent deficit below target in the three years 1981/82 to 1983/84 to a 10 percent deficit in 1984/85 and a 9 percent surplus in 1985/86 largely in response to these changes. A considerable demand to resume expanding the area of smallholder tea arose. In 1985, however, the world tea price fell dramatically--to below its 1980 level in money terms--and the green leaf price for 1985/86 will have to fall very substantially. The greater output of smallholder tea will cushion somewhat the effect of the world tea price decline on grower incomes, but we have yet to see how growers will respond to this decline.

6. Impact of the Scheme and the Behaviour of Cultivators

A full study of the impact of the smallholder tea scheme is beyond the scope of this study, there being conceptual and methodological as well as practical problems involved; however, a number of points need to be discussed. The immediate effect of the scheme is quantifiable as to the number of people involved as growers and their incomes from growing tea. Less directly, there are employment effects as smallholder tea growers employ labour and themselves spend time on their tea plots; linkage effects, as the incomes are spent; and indirect benefits from roads, and so on provided by the project. For reasons of resource constraints I will concentrate on the direct benefits.

6.1 Number of Participants

Since the scheme has expanded slowly, the proportion of the population that participates directly as growers is necessarily

low. In total there are reported to be about 4,850 growers, but since many "growers" are in fact the dependents of other growers, the true number is considerably smaller. The total number of potential smallholder tea growers cannot be estimated because participation was not restricted to those currently cultivating or residing in the ecologically suitable area, nor has the population of these areas (however defined) been reported separately. The 1968 Sample Survey of Agriculture reports 102,000 and 55,000 households in Mulanje and Thyolo Districts, respectively, but not all lands in these districts are suitable for tea growing. The survey does not report tea separately as a smallholder crop; the 1980/81 NSSA reports 0.4 percent of all households in Blantyre ADD³ growing tea, and this suggests that some 1,096 households in all were growing tea.⁴ This is considerably less than the number reported by the STA. In any case, it is clear that only a small minority, even of the population of the main tea areas, have participated in the scheme.

The actual number of growers is considerably smaller than the 4,850 registered growers. In the survey we distinguished between nominal growers and actual growers. The nominal grower was the person recorded by STA as responsible for the debt incurred and entitled to the income from the plot; they are referred to here as Registered Growers (RG). The actual grower (AG) had control over management of the plot, although the income might well go to the nominal grower or to another person.

For example, one grower controlled three plots that were three separate Registered Growers to STA: one was in his own name, another in the name of his son, and the third in the name of his daughter. His wife received the income from the daughter's plot. His own number referred to two separate plots, one on public land and the other on customary land. The man lived matrilocally, as is the usual practise among the Lomwe and Nyanja people, who are the predominant inhabitants of the area. Originally this household had a public land plot registered under only one grower--the husband. During a period of bad relations with his in-laws it was decided to split the main public land plot so that in the event of the couple divorcing, one plot would remain with the wife's family, namely that currently registered under the daughter's name, while the other would go to the husband. The son's plot was a new plot, on "Customary Land," added later by the husband with permission of the local chief. The grower said that he registered it in his son's name so that there could be no dispute over his (the husband's) and the son's control of the tea in the event of a break-up of the marriage. He feared that the plots registered in his own name could be claimed by the wife's family, as having been obtained as a consequence of his marriage. While at the time of the interview this AG controlled the activities on the plots of all three RGs, it was not clear that this would continue; nor was it clear that

his attitude to each was the same. Thus there appeared to be less concern about and effort towards the daughter's plot than to his own and his son's, and the AG's wife was reported as only working on the plot registered in her daughter's name.

As in a number of other cases where the management was in the hands of an AG who handed over the income to an RG (or his or her representative in the case of minors and absentees), the structure of incentives was far from clear. Sometimes expenses for hired labour on the plot were deducted from the income accruing to the plot. In other instances, expenses were not calculated separately, and the gross income was handed over either completely or in part. The AG's remuneration was often unclear. In some cases the RG worked on the plot as a household member, and in others as the recipient of the income.

Aggregate figures on the number of registered growers per actual grower do not exist. A large sample of RGs, taken to represent the geographical and age structure of tea smallholders⁸⁵ reported that one in eight growers had a second registered grower within the household and under their control, and about one in a hundred had two. However, a subsample of this larger sample⁸⁶ interviewed two years later (in 1985) reported that 28 percent of actual growers had two registered growers in their household (i.e., themselves and one other), and in 22 percent the respondent controlled three or more other registered growers' plots. This subsample recorded an average of 1.8 plots per actual grower. The higher performing growers tended to have more plots and larger total tea areas than the poorer performing growers, but since it was not a random sample, extrapolation to the whole population would be unwise. Subsequent observation, in 1986, suggested that a considerable number of plots were transferred, often from poorly performing growers to better, with the effect of concentrating control of tea plots. The total number of households with smallholder tea is likely, therefore, to be nearer to 2,500 than to the 4,850 registered growers.

6.2 Income from Tea per Grower

Tea is a perennial crop whose yield increases steadily over time; costs and returns are also very dependent on the age of the bushes planted. In the early years there are heavy expenditures for land preparation, planting materials and fertilizers, and labour for maintenance. As yields grow, the labour required for plucking increases, as does the amount of fertilizers. Labour for weeding, soil conservation, and infilling where plants have died, in general declines as the tea gets older, but, as with yield, is very dependent on the characteristics of the particular plot. The gross income from tea varies enormously among smallholders; it depends on the area and age (or rather age--or vintage--structure)⁸⁷ of the tea, its location, and its performance as measured by its yield relative to the yield

expected of tea of that age; it also depends on the green leaf price paid. The net income depends both on the deductions that STA makes from the gross payment to cover the cost of planting materials and fertilizers, and on the smallholder's expenditure on labour to pluck, weed, and prune the tea.

Empirical evidence on gross incomes can be calculated from the annual reports of the STA, which give the gross earnings of all growers. As reported in Table 7, they show a steady increase up to 1982-83, followed by dramatic increases in the next two seasons as the world price of tea increased, allowing substantial increases in the green leaf price that could be paid. Part of the gain in gross earnings was offset by the rise in agricultural input prices in Malawi at this time, however. The gross income per registered grower in 1980-81 can be compared with the average income of smallholders in the Blantyre Agricultural Development Division, within which the tea areas fall, reported in the 1980-81 NSSA as Mk 138. Gross income, however, is not as relevant to this comparison as net income, in view of the large deductions made by STA and the substantial labour costs incurred by many smallholders. Nor is it particularly relevant, given the high proportion of smallholder tea that has not yet reached maturity.

Information on net incomes and their variation with the age of smallholder tea and among smallholders, however, is not readily available. Net payments by STA to registered growers can be calculated, but recent information on growers' expenditures on hired labour can be estimated only indirectly. Two approaches to estimate net incomes can be taken. One is to piece together evidence from surveys; the other is to construct budgets and use these to estimate incomes.

Table 7. Gross Incomes of Smallholder Tea Growers

<u>Year</u>	<u>Average Gross Income</u>	<u>Malawi/London Tea Prices</u>	
		<u>Ave. price (p/kg)</u>	<u>Index</u>
	<u>(Mk)</u>		
1979-80	106	85	83
1980-81	110	77	92
1981-82	(124)	88	100
1982-83	160	102	113
1983-84	(384)	132	126
1984-85	552	229	145
1985-86		136	

6.3 Variations in Performance Among Growers

Central to both methods is the observation that the average yield of growers has been well below targets. In 1981-82, for example, the output of the scheme as a whole was nearly 30 percent below target, where the target for the scheme as a whole is estimated as the sum over all ages of tea, of the expected yield of tea of a given age multiplied by the area of smallholder tea of that age. The same is done to derive the target for each grower. The expected yields are modest by comparison with research station and estate expectations. The below-target performance of the scheme was because more growers achieved considerably below target than above target. As shown in Table 8, nearly 70 percent of growers had below-target output in 1981-82. Similar figures for other years are not available, but other evidence (see Tables 9 and 10) suggests that the overall improvement in the performance of the scheme in 1984-85 and 1985-86 was the result of an improvement in yield by all groups (not only by below-average performing groups). Table 9 shows the biases in the GLME and GES samples: while the latter was stratified to provide adequate numbers from each performance category, the GLME sample was supposed to be a random sample of growers in both districts. As can be seen, the GLME sample has too few low-performing growers in Mulanje District, and too many low-performing growers in Thyolo, as compared to the population.

Net payments by STA to registered growers depend strongly not only on the age structure of their tea, but also on its performance in relation to target. This is largely because poor performance is the result of low yields rather than smaller acreages. As a rough guide to net payments to growers, members of the GES sample who obtained less than 50 percent of their target in 1981-82 received on average Mk 70, while those who achieved between 50 and 100 percent of their target received on average Mk 181. The net STA payment per grower and the net payment per acre are shown in Table 9.

The figures in Table 9 refer to Mulanje District and cannot be considered representative, as the weighted average shows. (Compare Table 9, where gross earnings reported are considerably less than the weighted average net earnings reported in Table 10.) The figures should be further reduced by the cost of hired labour used on smallholder tea. No recent direct estimates exist either of hired labour costs or of the amount of household labour employed on tea; most growers in the GES (80 percent of the sample) reported using hired labour in 1983-84, and 65 percent reported hiring labour to establish young tea. A survey conducted in 1972-73 in Mulanje District found that 29 percent of tea labour was hired, and 78 percent of hired labour was used on tea. At that time all the smallholder tea was less than 10 years

old; weeding and plucking were the main tasks performed. Hired labour (41 percent) and repayments to STA (48 percent) together constituted 89 percent of farm expenditure. Cash expenditures, including repayments to STA and hired labour, were 59 percent of gross tea earnings.

Table 8. Distribution of Performance for all Growers and the GLME and GES samples, 1982-82

<u>District</u>	<u>Performance</u> (target yield = 1)	<u>Population</u> %	<u>GLME</u> %	<u>GES</u> %
Mulanje	<.5	40	25	22
	.5 < 1	30	39	31
	1 < 2	27	28	33
	≥ 2	<u>4</u>	<u>8</u>	<u>13</u>
<u>Total</u>		100	100	99
<u>Average Performance</u>		66*	99**	79***
Thyolo	<.5	49	59	
	.5 < 1	30	26	
	1 < 2	19	11	
	≥ 2	<u>2</u>	<u>3</u>	
<u>Total</u>		100	100	
<u>Average Performance</u>		67*	53**	
<u>Total Scheme</u>		71*	72**	

* There is a discrepancy between the figures for the blockwise breakdown used to calculate the district averages and that presented for the scheme as a whole in the STA Annual Reports.

** Unweighted

*** Reweighted by proportion of total population in performance category for Mulanje District.

Table 9. Net Payment by STA per Grower and per Acre, by Performance Categories

District	Performance (target yield = 1)	Season				
		81-2	82-3	83-4	84-5	85-6
Average Net Payment per Grower						
Mulanje	<.5	70	86	124	258	408
	.5 < 1	181	242	309	871	1150
	1 < 2	278	374	489	1,312	1,544
	≥ 2	596	689	939	1,977	2,547
*Weighted Average Net Payment		179	233	308	789	1,015
Average Net Payment per Acre						
Mulanje	<.5	55	81	180	464	575
	.5 < 1	200	279	386	953	1,172
	1 < 2	410	356	701	1,623	1,966
	≥ 2	721	859	1,425	3,370	4,295
*Weighted Average Net Payment		219	243	430	1,034	1,272

Green Leaf Price		.085	.095	.12	.25	.26
Malawi/London Average Price		88	102	132	229	136
Malawi GNP Deflator		100	113	126	145	

*Weighted by proportion of population in performance group in 1981-82.

Other expenses also need to be deducted, including income tax, which many growers have to pay. Nevertheless, the main expense of growers reported in the GES is labour, and most growers hire labour under various contractual arrangements. The most common forms of hired labour appear to be permanent labourers who are paid a daily rate, either weekly or monthly; labour that is paid by task or piece rates; or labour paid on contract, for such activities as weeding, pruning, and plucking.

Table 10. Proportion of Growers in GLME sample by Performance

District and Performance	Season												Total
	80-1		81-2		82-3		83-4		84-5		85-6		
	N	%	N	%	N	%	N	%	N	%	N	%	%
Mulanje <.5	130	22	146	25	140	24	114	21	75	13	52	9	19
.5 < 1	210	36	232	39	252	43	230	41	209	36	152	26	37
1 < 2	198	34	165	28	149	25	163	29	231	39	268	46	34
≥ 2	50	9	46	8	49	8	48	9	73	12	113	19	11
Total	588	100	589	100	590	100	555	100	588	100	585	100	100
Average Performance													
Scheme		70		66		68		73		95		116	
Sample		99		92		92		99		117		138	
Thyolo <.5	45	39	69	59	67	57	47	57	62	55	36	32	50
.5 < 1	44	38	31	26	32	27	29	35	38	34	37	33	32
1 < 2	22	19	13	11	15	13	4	5	12	11	31	27	15
≥ 2	5	4	4	3	3	3	2	2	1	1	9	8	4
Total	116	100	117	100	117	100	82	100	113	100	113	100	100
Average Performance													
Scheme		99		67		70		67		71		96	
Sample		67		53		53		46		50		83	
Total													
Scheme		75		66		69		72		90		109	
Sample		83		72		72		73		83		110	

Source: STA Green Leaf Monitoring Exercise; tabulation by the author.

Note: It is not clear why the number of growers with less than 50 percent of target is lower in this sample in 1980-81 than in the population as a whole.

Permanent labour that works on tea--and also often on other crops and various tasks about the home or in the other businesses of the grower--may be paid round the year or for the main plucking season only. A common arrangement is to have one or more permanent labourers supplemented by casual piece-rate paid labour--often female or migrant from Mozambique--for peak season activities, especially plucking and weeding. The plucking piece rate is closely tied to that paid by estates, sometimes slightly below, and it is not usual for food or clothing to be provided.

The main point is that most growers find it necessary to hire labour--and this was true even in the years before the green leaf price went up--despite their complaints of low returns from tea. Thus, in the GES sample, more than 60 percent of growers reported hiring labour during the preparation, planting, and maintenance years, while 80 percent reported hiring labour in the 1983/84 season for production and/or maintenance. The amount of labour no doubt varied among growers according to the availability of household labour and the area of tea and or other crops controlled. Rather more of the better-performing growers hired labour, but poorly performing growers who had high land-to-household labour ratios also hired labour. The amount of labour used will vary, of course, with the amount of work to be done, not just with the desire for greater or lesser productivity. For example, many growers with plots on which the establishment is poor will use a lot of labour for weeding because the lack of ground cover from the tea encourages weed growth.⁸⁸

The AES also presented data on the amount of labour per acre by age of tea. Most labour in the early years was used to establish and maintain the tea, while in later years it was mainly for weeding, pruning and plucking. Because yield by age was also provided, it was possible to make an initial estimate of labour inputs for maintenance (fixed) and for harvesting tasks (since the latter would vary with yield, while the former would depend mainly on age, and could be expected to decline in a fairly regular manner from the first year).⁸⁹ These labour input estimates can be used to construct budgets for smallholders.

6.3.1 Net Incomes Estimated in a Model Budget

Simple model budgets of a tea smallholder, using the labour data estimated from the 1972-73 survey, support the view that, for a grower whose tea was mature and achieving target yields, labour costs in 1981-82 represented between 1/4 and 1/3 of gross earnings, while repayments to STA constituted about 40 percent of gross earnings--leaving the grower with about 30 percent of gross earnings. The net income rose to 50 percent when capital costs had been paid off, which took at least 24 years.⁹⁰ Earnings before payment of any labour, for mature smallholder tea producing the target yield, were around Mk 300 per acre until

capital charges were repaid,⁹¹ after which they would have risen to nearly Mk 400 per acre. But labour costs reduced these by about Mk 150 per acre. Even the budget prepared by CDC for a grower achieving target yields indicated that, at maturity, net earnings after payment for labour were only 40 percent of gross earnings (CDC 1982b, Appendix 7 Schedule 14). For growers who achieved only 75 percent of target the financial returns were much less satisfactory; at maturity and before the capital debt was paid off, the grower would receive only 50 percent of gross earnings before labour costs, and only about 20 percent after paying hired and family labour at the going wage rate. For growers achieving 50 percent of the target yield (and in 1981-82, 40 percent of growers achieved less than 50 percent of their target), payments to STA comprised nearly 70 percent of gross earnings, and payment of labour at the going wage would have resulted in negative returns.

Growers achieving more than the target yield would have had considerably better financial returns. The model predicts that before payment of labour a grower achieving 1.5 times the target yield would have had an income in 1981-82 of just over Mk 500 per acre, and just over Mk 300 per acre after payment of labour. For a grower achieving twice the target yield, the relevant figures are Mk 740 before labour payment and Mk 500 after labour payment. These figures are close to the estimated net payments by STA to growers from the GLME sample (labour payment figures are not available), shown in Table 9.

Of course the financial returns to growers were dramatically improved by increases in the green leaf price that followed the rise in the world tea price in 1983-84 (see Table 11). A considerable increase in interest in growing tea followed, as reported above. Recent complete figures on the distribution of growers by performance relative to target are not available.⁹² The GLME sample shows that growers from all performance categories improved their yields between 1981-82 and 1985-86, that is, the improvement in performance was not restricted to any group. Thus, for example, the proportion of the sample with less than 50 percent of target output in Mulanje District fell from 25 percent of the sample to 9 percent in 1985-86 (see Table 10); reweighting to properly represent the population indicates that it is likely that 20 percent of registered growers achieved less than 50 percent of their target in 1985-86.

There was, therefore, considerable inequality in the distribution of net payments to growers, based largely on the performance of growers relative to target, or on the age and area of the grower's tea. Further inequality resulted from the number of registered growers' plots controlled by actual growers. Unfortunately, information on total incomes from tea is not available, in part because of incomplete data on the number of

Table 11. Estimated Incomes from Smallholder Tea Production

<u>Year</u>	STA Gross	GLME Net	Mulanje		STA	GES ne
	Income	Income	<u>Performance</u>			
	<u>(Mk)</u>	<u>(Mk)</u>	<u>STA</u>	<u>GLME</u>	<u>Gross inc.</u>	<u>income</u>
1979-80	106				111	
1980-81	110		70	99	112	
1981-82	[124]		66	92		
1982-83	160		68	92	165	
1983-84	[384]	299	73	99	[408]	41
1984-85	552	445	95	117	586	1,02
1985-86		568	114	138		1,32

Notes: Figures in brackets are estimated, as number of growers is not known for that year. Net incomes are calculated using the current season's first payment and the previous season's second payment.

registered growers' plots controlled by each actual grower (recall the incomplete information provided on this matter by the GLME sample, as revealed by the response of the GES subsample).

For each district and for each block the distribution of performances⁹³ is negatively skewed. The average performance of different blocks within each district varies considerably, but each block has above- and below-average performing growers. The distribution of net incomes can be obtained by reweighting the GLME and GES samples to adjust for the sampling bias, using the 1981-82 total performance figures as a base. In Mulanje District in 1981-82 the bottom 40 percent of growers by performance received just over 15 percent of total net incomes, while the bottom 40 percent by performance of growers in 1985-86 received 19 percent of net income; the top 14 percent of growers by performance received 32 percent of net income in 1981-82 and 29 percent of net income in 1985-86. Growers receiving the lowest 25 percent of net income per grower in these two seasons received 1.3 percent and 3.5 percent of total net income, while growers receiving the top 10 percent of net incomes per grower received 49 percent and 41 percent of total net income, respectively. This high concentration of incomes follows from the fall in net payments combined with the increase in the weight of STA deductions for growers who get yields below targets.

Low yields also mean that STA overheads are higher in relation to total output, with the consequence that payments to growers must be lower (or subsidies higher), thereby lowering net incomes further and possibly reducing yields, if growers decrease inputs in line with lower returns. If they do this, however, it

implies that they are not doing (all) the things specified for smallholder tea growing, and hence there may be some basis for the view that growers are, at least in part, "opportunistic," or myopically rational. It is to the causes of low (and high) performance, and their change over time, that I now turn.

6.3.2 Changes in Performance and Net Income over Time

All blocks of STA tea growers show the same pattern of declining performance (yields in relation to age) over the period 1980-81 to 1983-84, and a rise thereafter. The factors most obviously associated with this temporal pattern of performance were the policy changes and green leaf price developments that have been described above. STA had been insisting on a "fine" standard of plucking, which had been criticised as economically suboptimal for tea growing in Malawi (Palmer-Jones 1974, 1977a); also, STA withdrew the delivery of fertilizer on seasonal credit for the 1981-82 season as a result of its financial crisis. The "three-and-a-bud" standard was adopted in 1983 and seasonal credit for fertilizers was restarted in 1984-85, as a result of advice of a consultant (Palmer-Jones 1983, 1985), and the improvement in STA finances following the rise in the world price of tea. Very few growers applied fertilizer in the intervening three years. Another consequence of the 1983 rise in world tea prices was a rise in the price of green leaf, which was communicated to growers by a rise in the first payment for green leaf from 8 tambala per kg to 10 tambala per kg in December 1983, and to 12 tambala per kg for the 1984-85 season. The second payment for the 1983-84 season, paid in November 1984 (i.e., at the start of the 1984-85 season), was 13 tambala per kg, compared to 4 tambala the previous year.⁹⁴ As shown earlier, performance of the scheme as a whole rose from a 27 percent deficit to a 10 percent deficit in 1984-85. The continuing high price of tea and the improved output allowed the maintenance of a 12 tambala first payment in 1984-85 and a second payment of 14 tambala on the much increased total production. The improvement in performance continued, with output in 1985-86 being nearly 10 percent above target.

These facts suggest that either of the two types of explanation discussed above could have contributed to the fall and rise in productivity: either factors associated with STA--the fertilizer level or plucking standard--or economic behaviour by smallholders--labour supply changing in response to the green leaf price changes, in particular the large second payments that were made in November 1984 and 1985.

6.4 Explaining Variations in Grower Performance

Performance, defined as the average yield of all vintages of tea of a grower relative to the target for that grower, is of course strongly associated with net income. The total tea area

of the grower and the average age of the tea also play significant roles in explaining variations in performance.⁹⁵ It should be possible to throw some further light on the conflicting explanations offered above for the poor overall performance of the project by finding causes of variations among growers. If the variations in yield can be attributed to growers' characteristics, then opportunism can be inferred; if differences in yield can be attributed to factors beyond the control of the individual grower but within the control of STA, however, then it is likely that the responsibility for poor performance can be attributed to STA. It is also important to explain variations in performance because growers' net income is strongly correlated with it.

Differences in productivity will occur both because of differences in input levels and because of differences in the quality of inputs used. In a perfectly competitive world of complete and costless information, enforcement of costs, and so on, there would be no differences in input levels between producers using the same quality of inputs. Differences in input levels arise in the real world because such conditions do not exist, and it is rational for different producers to choose the optimum combination of inputs for their particular circumstances (with respect to the quantity and quality of the resources with which they are endowed, the imperfect market conditions they face, etc.). In a contracting situation, however, growers should use roughly similar input levels, and differences in productivity should be the result only of differences in the quality of inputs, such as land. But growers may find that, given the quality of inputs which they have been supplied (land and plants), if they apply the input levels implicit in the agronomic practices specified in their contract or recommended to them by extension workers, they would be worse off than had they not accepted the contract initially.⁹⁶ Thus it is possible for a grower to use lower inputs than specified and yet not be acting opportunistically. However, there may also be growers who set input levels (plucking standards and round lengths, intensity of weeding, etc.) in response to price levels in a way that should be described as opportunistic; i.e., they set input levels to maximise short run private utility, rather than to maximise aggregate net returns.⁹⁷

In principal it is possible to estimate the variation that is due to differences in input levels and that which is due to the quality of inputs, when "panel" data are available. This is done by estimating the effect of measured input levels and ascribing the residual to quality differences. There are, however, methodological (and practical) problems involved in explaining variations in performance among different producers.

Misestimation of productivity differences may result from misspecification of the relationship between inputs and outputs,

and mismeasurement of input quantities and qualities, and outputs. Not all inputs can be recorded--for example, "management," and the input of others may be disguised--for example, fertilizers that are supposed to be put on tea but are diverted to other crops or sold may be reported as applied. Many inputs cannot be measured accurately. For example, the inability to measure effective labour--labour effort--is an important rationale for contracting schemes, but the attempt to measure "shirking" by estimating the residual after the effects of other inputs and labour quantity have been removed will confuse it with the unmeasured quality variations of other inputs--for example, land or planting material. Thus the attempt to distinguish empirically the part of yield differences that is due to the (effective) quantity of grower-supplied inputs from that due to the quality of STA-supplied inputs is fraught with problems. Because neither the former nor the latter can be observed directly, their effects will be combined in the residuals of regression analysis.

Further difficulties with calculating the performance of growers stem from the rise in potential yield of tea with its age, up to about its fifteenth year (and sometimes more) in Malawi. A grower's expected yield varies with the age structure of his/her tea. In each year the expected yield has to be increased because of the increased age of the tea. The relationship between age and yield for smallholder tea is not well established, however. It is likely to vary among areas, planting materials, and a number of other variables. The performance figures quoted above, giving the expected yield of tea of different ages, are based on the standard output figures used by STA, which, in turn, were based on informed opinion in Malawi derived from estate experience. (An upward adjustment of the figures used in the original feasibility study was performed in 1972 following greater-than-expected yields in the first years of the project.) The same yield progression is used for both Mulanje and Thyolo, although because of climate differences it is expected that yields increase with age at different rates. An alternative, which should allow the estimation of the relationship for smallholder tea in different blocks separately, was to fit regression models of output of each grower with the area of each vintage of each grower (see Etherington 1973). After considerable experimentation, including pooling all the data for each of the six years 1980-81 to 1985-86, and using grower dummy variables, this method had to be rejected because of the unsatisfactory nature of the results.

There is little doubt that the method, which worked well in the Kenyan case according to Etherington, did not work well with Malawi smallholders because of errors in recorded plot sizes and, possibly, output. The high proportion of infills exacerbates problems because an area planted in a given year in fact contains many somewhat younger bushes, which were planted as infills.

Each grower has tea of a number of vintages (planted in different years). The regression method requires the area of each vintage to be an independent variable, and uses output as the dependent variable. Observations for the same grower in different years provide a means of estimating that part of the variation in performance that is characteristic of the individual grower (for management bias). However, because the tea is getting older, the size of the individual grower coefficient will increase with the average age of the grower's tea; hence individual grower dummies cannot be used directly. Instead they can be used to estimate the relationship between vintage and yield, and this result can be used to produce revised target yields based on actual smallholder tea yields. Performance is then the ratio of actual to (revised) target output.

The estimates of the area of each vintage are based on recorded sales of plants by STA for new planting (as opposed to infills) to the grower; the number is divided by the specified number of plants per unit area to arrive at the area planted. The area of each vintage of each grower in the sample has also been measured physically, and in a separate exercise the number of live bushes, vacancies, and infills have been counted; this provided a check only on the total area planted rather than its vintage structure. While the various measures show a reasonable degree of agreement, in a number of cases the recorded outputs do not accord with any reasonable estimates of the area and vintage structure planted. Because of the high proportion of plant deaths, the area originally planted will not have a population all of the age of the original planting; in some cases deaths of over 50 percent and up to 100 percent occurred, but all that has been recorded is the area originally planted in a given year. Even here there are some inaccuracies because a number of growers used plants issued as infills to plant greater acreages. Thus, in Khukhumba Block, for example, the average area of tea per smallholder measured by counting the number of plants growing was 180 percent of the area recorded by STA based on plants issued. In some cases STA staff delivered more plants to certain growers than they were charged for. Also, a certain amount of trading of plants among growers took place. As a result the independent variables are subject to some errors.

Output of each grower's tea was supposed to be recorded separately, but because many growers actually control several plots it was possible for tea from other plots to be recorded against the sample plot, and, likewise, for tea from the sample plot to be recorded against other plots. This was all the more likely in cases where the sample grower's tea consisted of plots in more than one place.

Another factor that has perhaps affected the model is that over the years the management of a number of plots has changed hands. This means that the grower dummies, which are supposed to

capture the consistent effects of grower-specific variables, will be confounded by the change in these variables resulting from the change in control of the plot (see Palmer-Jones 1985 and work in progress).

Despite these difficulties, a number of results of interest emerged from the regression analysis (see Palmer-Jones 1985 and work in progress for further details). Thus, whether performance was estimated by comparing actual output with output estimated using the STA standard yield progression, or from yield progressions estimated by regression analysis, there was no obvious relationship between these estimates and any socioeconomic variables such as those that are usually taken to represent "management ability." For example, the age, main occupation, or education of the household head; household size, composition; or labour-to-land ratio (as measures of factor availability) were not significantly related to performance. Similarly, tea plot size, total tea area, other crop area, and total crop (including tea) area were not related to performance.

On the other hand, a number of agronomic variables were significantly related to performance. In particular, when plots were scored for the presence of agronomic problems such as vacancies, fertilizer deficiencies, weediness, plucking problems, and so on, gaps and fertilizer problems were quite strongly and consistently related to performance (see Table 12). It should be noted that weed and plucking problems were strongly collinear (simple $r^2 = 0.41$, $n = 125$), with the result that neither appears statistically significant when both are included in the regressions, but each, weeds especially, is significant in 1980-81 to 1982-83 when included individually (Table 13).

Reports of fertilizer and weed problems were strongly related to the previous cropping history of the plot, in that plots reported as having previously been under annual crops, as opposed to those that had been under forest or estate-planted tree crops, were more likely to have fertilizer and weed problems, and these plots had lower performance (see Tables 14 and 15). A dummy variable representing a previous cropping history was negatively correlated with performance in 1980-81 to 1982-83, and in 1985-86 (bottom of Table 12). This effect did not disappear when previous use and observed problems were included in the analysis, although the significance of the relationship with previous cropping history was reduced, suggesting that the effect of previous cropping on performance was not entirely due to its effects on the observed agronomic problems. These results were strongest for the very poorly performing years 1980-81 to 1982-83, as shown in Tables 12 and 13. A previous cropping history was likely to have reduced soil fertility and increased weed infestation, giving rise to the reported observations, and contributing to reduced performance. The report of gaps (i.e., a high proportion of tea bushes having

Table 12. Regression Results of Performance with Agronomic Variables, GES sample

Year	r ² Prob > F	Variables				Pluck
		Fert	Gap	Weed	Pluck	
1980-1	.0005	.016	.001	ns	ns	
1981-2	.0001	.0007	.0004	ns	ns	
1982-3	.001	.0001	.0001	.08	.09	
1983-4	.02	.03	.01	ns	ns	
1984-5	.03	.02	.04	ns	ns	
1985-6	.005	.006	.001	ns	ns	
All years	.005	.003	.07	ns	ns	
----- Regression including "cropping" as a dummy variable						
	Prob > F	Fert	Gap	Weed	Pluck	Cropping
1980-1	.0007	.056	.001	ns	ns	.21
1981-2	.0001	.007	.0003	ns	ns	.059
1982-3	.0001	.0008	.0008	ns	ns	.02
1983-4	.036	.069	.01	ns	ns	.45
1984-5	.05	.057	.040	ns	ns	.438
1985-6	.0057	.024	.012	ns	ns	.21
All years	.0001	.003	.012	.0009	ns	.0386
" "	.00015	-	-	-	-	.0005
	Prob > F	Cropping				
1980-1	.03	.0355				
1981-2	.0042	.0042				
1982-3	.0004	.0004				
1983-4	.150	.150				
1984-5	.186	.186				
1985-6	.050	.050				
All years	.0001	.0386				
" "	.00015	-	-	-	-	.0005

Notes: - signifies not included in regression; ns means not significant; fert, gap, weed, and pluck are variables taking values 1 if the problem was recorded on the plot (e.g., fert = 1 if STA extension staff recorded the plot as suffering from fertilizer deficiency, and similarly for the presence of gaps, weed, or plucking problems) and 0 otherwise. Cropping takes the value 1 if the plot was cropped before planting tea, 0 otherwise (i.e., if it had been under forest or estate tree crops). All coefficients were negative--i.e., the reported occurrence of a problem was associated with a reduction in performance (see Table 13).

Table 13. Correlation Matrix of Variables Related to Performance

<u>Variables</u>	<u>Fert</u>	<u>Gap</u>	<u>Weed</u>	<u>Pluck</u>	<u>Cropping</u>
Weed	-.01	.00			
Pluck	-.05	-.13	.41		
Gap	-.07	-.01	-.05	-.05	
Cropping	.30	-.03	.18	.10	
Perf 1980-1	-.17	-.26	-.19	-.14	-.19
Perf 1981-2	-.26	-.27	-.16	-.12	-.26
Perf 1982-3	-.31	-.23	-.22	-.16	-.31
Perf 1983-4	-.18	-.31	-.07	-.01	-.13
Perf 1984-5	-.19	-.18	-.01	.10	-.12
Perf 1985-6	-.23	-.22	-.06	.08	-.17

Note: Perf 1980-1, etc., is output/target in 1980-1 crop year; other variables as above.

Table 14. Relationship between Previous Use of Plot, Agronomic Problems, and Performance of GES Smallholder Tea Plots

	<u>Performance (mean % target)</u>			<u>Total</u>
	<u><75</u>	<u>75-110</u>	<u>>110</u> Number	
Previous use not given	1	8	4	13
Forest	10	12	21	43
Cropping	29	18	17	<u>64</u>
				120

Table 15. Previous Use and Incidence of Agronomic Problems in GES Smallholder Tea Plots

<u>Previous use</u>	<u>Fert</u>	<u>Gap</u>	<u>Weed</u>	<u>Pluck</u>
	<u>Percent of plots</u>			
Forest	2	35	9	11
Cropping	30	28	22	16

died) was not associated with previous cropping history, indicating this problem could not be attributed to loss of soil fertility. A possible explanation of the apparently random distribution of this problem is that it is due to the distribution of poor quality plants, which were probably more or less randomly distributed.

It should be noted that plots with previous cropping history were not randomly distributed; rather they occur predominantly on customary land rather than public, and are therefore often dispersed among plots growing other crops instead of in contiguous blocks, as is the case with public land plots. There may also be a geographical bias in the distribution of customary land plots, although the specific characteristics of customary relative to public land plots varies between blocks: in some blocks the customary land plots may be on less favourable soils, and/or subject to less satisfactory rainfall (e.g., in Sukamaere and Khukhumba Blocks).^{9 0}

The finding that a significant proportion of poorly performing plots occurs (a) on soils with a previous cropping history, and (b) randomly, associated with the incidence of a high proportion of gaps that may be largely due to the supply of poor quality planting material by STA, suggests that inadequate tea planting technology and poor management of tea nurseries by STA account for much of the poor performance of the smallholder tea growers. These problems were most noticeable following the withdrawal of seasonal credit for fertilizer and the consequent cessation of fertilizer use by the majority of growers, but they remained significant after the reintroduction of fertilizer credit and supplies. Grower opportunism may also have played a role, however, in that fertilizer may have been diverted from tea plots, particularly on customary land, where such diversion would be less easy for the STA to monitor. The incidence of gaps may be due to poor labour inputs at planting and in the early years by growers, notwithstanding the fact that it has not yet been possible to find any explanation of the distribution of this problem. The weed and plucking problems may reflect lower labour inputs by growers than implicit in the husbandry practices specified by STA, and thus, possibly, opportunism; these variables are less strongly related to poor performance than gaps and fertilizers, however.

The improvement in performance in 1984-85 and 1985-86 can be partly explained by the renewal of fertilizer applications and allowing a coarser standard of plucking, although the standard of plucking had apparently already become coarser in 1982-83 (see Palmer-Jones 1987). Nevertheless, it is also probable that part of the improvement can be attributed to increased labour and other grower-supplied inputs in response to increased green leaf prices. I have not been able to produce any evidence to decide this issue, although casual observation certainly indicates an

increased enthusiasm for tea (and applications to grow small-holder tea have been renewed). The point is, though, that in a contract farming context, where inputs are (implicitly) determined by the agronomic practices specified, there should be no response of grower-supplied inputs to price.

6.5 Discussion

The argument so far has been that the physical productivity of the scheme has been unsatisfactory, giving rise to low throughput, high overheads, and consequent financial problems. These resulted in low green leaf prices, which exacerbated the problem of low returns caused by low yields. As a result, fewer potential growers started to grow tea, especially once the supplies of public land that were reserved for tea growing were exhausted. The expansion of the smallholder tea area fell below targets, intensifying the problems caused by high overheads. It was alleged that growers were not supplying the necessary inputs of labour for plucking and weeding, and that fertilizers supplied for tea were being diverted to food crops or sold.

This is a not uncommon vicious circle. However, the root cause of the low physical productivity of land, or rather of why STA's expenditure was not translated into productive tea bushes in the land, has not been identified. Rather, the main explanation offered by the STA has been disputed. Two explanations (which may both be present) of the origin of this vicious circle have been put forward: on the one hand, it is suggested that grower-supplied inputs have been inadequate and the disciplinary powers to induce appropriate input levels have been lacking. Growers, it is said, have failed to prepare and maintain their plots while the tea was young, particularly failing to apply sufficient mulch, with consequent high death rates of young plants and a need for numerous infills. They have done this out of ignorance (not taking what they are told seriously), or narrow self-interest (free riding). On the other hand, it is suggested that the technology and inputs supplied by STA have been unsatisfactory: for example, distributing poor quality planting material, failing to adopt clonal material, expanding into unsuitable areas, adopting too fine a standard of plucking, and, later, withdrawing seasonal credit for fertilizer supplies. Recently it has been suggested that planting on soils that have become eroded and infertile through annual cropping and infilling gaps in established tea require rehabilitation of the soils in order to achieve satisfactory establishment and performance of the tea. In one version of this view, there is little that growers could have been expected to do that could have improved the situation; in another version, high levels of labour inputs could have increased output, but growers chose not to apply them because they did not see it as being in their interests.⁹⁹

Underlying this difference in explanation is a question of the economic behaviour of smallholders, in particular, the question of "opportunistic" behaviour, or what is sometimes seen as laziness. Are smallholders free riding? This is largely an empirical question, but one that is very hard to answer, especially for perennial crops. The discussion, nevertheless, proceeds for the most part in a priori terms, based on models or assumptions about smallholder economic behaviour. The methodological issues are complex and, I believe, substantially unresolved.

Most of the debate about these issues is crude; for example, most appraisals and evaluations of projects of this type, to the extent that they consider the returns to growers at all, do so on the basis of simple budgets and do not pay any attention to incentives at the margin. Nor do they examine the sensitivity of estimated returns to variations in parameters, such as prices and yields.¹⁰⁰ According to a CDC official (and the same is implicit in arguments based on budgets putatively establishing the economic viability of the scheme to the grower), all that is required is that the estimated return be comparable to, or sufficiently greater than, incomes thought to be presently experienced in the area (or among the prospective growers), to induce growers to supply appropriate levels of inputs. The assumption here is that growers will use the assumed input levels and will generate the returns predicted.

Criticism at this level concentrates on the assumptions about the parameters in the smallholder budget that establish that the returns will be suitable, on assumptions about the supply of grower-controlled inputs, or on assumptions about alternative incomes available to growers. Critics assert that peasants are rational and do what is in their interests, and if they do not do as they are told, according to the terms of their contract, it is because it is not in their (economic) interest to do so. Thus, to these observers, low yields are the result of poor returns to grower inputs, especially labour. But even if it were true that growers who supplied the predicted input levels would get the returns suggested, and that these returns were greater than present incomes, it is not clear that this is what growers will do, or that it is what they should do. They may behave opportunistically, at least to some degree, and the degree of opportunism may be sufficient to set off the vicious downward spiral of project viability described above. Such opportunism is not necessarily irrational, any more than shirking by any party to a contract. It is part of the task of institutions such as the STA, and, of course, plantation companies in their own context, to devise means of overcoming such behaviour.

Another line of criticism, predominantly by officials and agriculturalists, claims that many of the growers who do not get the results expected do not always do as they are told. They point out that other growers do get satisfactory results, and it is asserted or assumed that these growers have done as told. Thus poor yields are attributed to lack of compliance. Since the scheme would be viable under the assumptions of subsidies and government inputs if all, (or at least on average), growers obtained the yields laid out in the feasibility studies, the responsibility for financial difficulties is laid at the door of those growers with low yields, and the appropriate solution is seen as disciplining "delinquent" growers.

Smallholder tea growers have to take a great deal on trust, since there is a long lag between the time they must decide their labour inputs and the results they achieve. In addition, considerable externalities exist with respect to both yield and quality, as I have shown elsewhere (Palmer-Jones 1985:7-26). Since STA is probably on a downward sloping portion of its average cost curve, increasing output will raise the green leaf price it can pay. The effect of raising output on an individual grower will be negligible, however, although, if all growers increase output, the aggregate effect would be quite significant. A similar pattern occurs with quality: a decline in the quality of tea produced by an individual grower has little effect on his own returns, but in aggregate the effect can be very significant. These two characteristics require growers to refrain, or be prevented, from behaving myopically, which amounts to seeing that they act according to the agronomic specifications of the scheme. But when those specifications result in incomes substantially lower than opportunity costs, sometimes causing growers to fall into poverty and/or debt, it is not clear how growers should respond. Nor is it clear at what point growers should become dissatisfied, since it is accepted that in the early years of planting and establishment there will be little reward for labour. A fully rational grower would take account of the externalities generated by individual behaviour, but in a situation where STA does not always deliver the specified quantity and quality of its inputs and services, and where the viability of the scheme is evidently marginal, it is not clear how fully rational growers should behave, let alone whether they should, or even could, carry out the practices, with attendant input levels, specified by STA. This section discusses some factors affecting the incentives faced by growers.

The calculations that a grower would have to make are surprisingly complex, and the process of determining returns from STA are far from clear. Feasibility studies of STA, as is common in other studies of this type, present budgets for a unit of land planted in a single year.¹⁰¹ Because of labour and credit constraints, however, growers plant over a number of years, hence their total income will depend in part on the proportion of their

tea that is still young and not in full bearing, as well as whether they have paid off their capital charges.¹⁰² The cash flow from such a pattern is tiresome to calculate and depends on assumptions about yields, labour inputs, and the prices STA will pay for green leaf and charge for plants and fertilizers. Most of this cannot be known by growers initially, although over a number of years they will gain some experience. Thus, as most of a sample said,¹⁰³ they embarked on growing smallholder tea in the belief that they would make money, because Europeans were doing so, and because the president urged them to do so. It is not at all clear how growers discount future returns, nor how they calculate opportunity costs, thus it is difficult to arrive at an assessment of the point at which they would regard the returns as so low that they would cease to "do as they were told." Nevertheless, there must be a level of productivity at which it would be sensible for even a fully rational grower to reduce input levels below those specified by STA. Furthermore, if a grower has a less fertile plot, which gives a lower return to labour, how is the appropriate labour or other grower-supplied input to be determined? Or, from another point of view, how is it to be decided whether the low yield is the result of shirking or of other factors, such as poor quality plants, soils, pest and disease attacks, and so on?

There is a further dimension to grower decision making beyond immediate economic calculation, namely, the question of strategic decision making. In a contract farming scheme, where growers face a company, the potential conflict of interests is evident: firms want lower prices, better quality, and more timely deliveries. Growers want higher prices, lower quality (if quality entails higher inputs), and delivery times that suit them. There will be boundaries to the distribution of gains from the project to one or the other group that would lead to withdrawal from the project and its demise.¹⁰⁴ Even in a producer cooperative, which is probably the right interpretation of the terms of reference of STA, growers' interests can be in conflict with those of individual STA staff members, and with STA as a body. Realising this potential conflict, growers may act strategically to try to induce better terms for their participation from STA, by reducing input levels and, hence, yield and output.

The empirical issue hinges on the reasons why some (a large proportion) of growers attain lower than expected productivity. But as we have seen, there are practical and methodological problems in deciding this. In reality it is clear that some growers applied less than specified inputs, and also that STA supplied poor quality plants, allowed expansion into unsuitable areas, and in some cases adopted practices of making expenditures in their own interests rather than in those of the growers. The practical solutions to the problem of financial nonviability of the scheme, therefore, require a combination of approaches to

raise performance both by STA and by growers. Since information about the facts of the case is scarce, judgment as to the appropriateness of modifications is likely to be contentious. Solutions to incentive problems can involve both participation in management by growers, so they come to understand and to influence management decisions, and/or independent arbitration, which can mediate conflicts of interest and set standards for management derived from achievements elsewhere. Technical developments in the growing of tea, produced by appropriate research, could also improve performance, which, if it raised income, might mitigate problems of opportunism. These issues are discussed further in the final section.

7. Summary and Conclusions

The relative failure of STA has been attributed to Malawi's environmental conditions, which are seen as more marginal for tea growing than Kenya's, thereby resulting in lower quality tea that fetched lower prices (Rendell 1976:219; Glover 1984:1152). While ecological conditions, both for establishing tea in the ground and producing higher priced teas, are inferior in most of the Malawi tea areas to conditions in most of the Kenyan ones, the existence of a viable plantation sector in Malawi suggests that a more thorough examination of the "harsh environment" case is warranted.¹⁰⁵

The ecological difficulties must be accepted; even estates had difficulties with new tea and replanting during the 1960s and 1970s. Nevertheless, it is possible that better performance and financial viability could have been attained. Among other advantages, Malawi has some higher yields and generally lower wage rates than Kenya that might offset the disadvantages of seasonal production and lower quality.¹⁰⁶ Indeed, STA, as shown above, has recently, though perhaps briefly, achieved considerably better performance in 1984-85 and 1985-86. The main alternative hypotheses that I have examined that could account for the comparatively poor performance of STA are that it has employed inappropriate technology when better techniques were known and being employed on estates, and that the contractual terms were inefficient (although perhaps not very different from those of the KTDA), in that they did not provide adequate incentives for either smallholders or management. In a number of cases smallholders undersupplied inputs, while management did not always provide planting material of satisfactory quality and adopted other unprofitable policies, partly in pursuit of its own interests. These factors have, I believe, accounted for the poor incentives to growers, which have further contributed to decisions by a number of them to apply lower inputs than "optimal," with consequent harmful effects on STA finances.

The problem, then, is to explain why these technologies and contractual terms were adopted, or at least not modified in the

light of experience. The policies and performance of STA have been and are conditioned by a "complex plurality of causes" (Morrison 1986:36); these causes divide into those that are part of the "context" and those that must be understood in terms of the "logic" of official thinking that contributed to the structure and policies of the STA. The context includes not only the environment, but also the economic, political, and social conditions. The "logic" influencing the choice of policy and the interpretation of performance includes ideas about how best to grow tea, how African farmers behave, and how to organise smallholder production. These ideas, of course, can be contested, and they can evolve over time in response to events and their interpretation. The roles played by both the plantation sector and CDC in determining policy and managerial performance need to be assessed.

7.1 The Determinants of Performance

The Smallholder Tea Authority in Malawi has been a marginal project, heavily dependent on subsidies to cover the costs of management, extension, and infrastructure, although its fortunes have fluctuated with the world price of tea. There were ecological difficulties, and difficulties due to the poverty of the African farmers involved, but it is questionable whether these difficulties did not loom larger in the minds of those responsible for the project than in reality. On the technical side, though it is yet to be confidently established, it seems possible that by adopting a very different type of approach to providing planting material, using VP clones established by all or selected growers, as in the KTDA, the scheme could have achieved better establishment and yields, and possibly higher quality. On the question of the capabilities and situation of African farmers, it can be argued that management placed a low estimate on their ability to plant and manage tea, and consequently tended to blame them for shortcomings of the scheme, rather than to accept that there were significant deficiencies on the part of STA's management and services, and that some of the Authority's major policy decisions were unsatisfactory. This raises the question of whether it was the structure of STA as a parastatal that impeded better performance.

The key problems seem to have been (a) a certain amount of myopic grower decision making, in that some growers' labour inputs were less than (collectively) optimal; and (b) that STA management supplied too much poor quality planting material, allowed expansion into too many marginal areas, imposed too fine a plucking standard, and invested in a central factory whose price advantage probably did not offset the higher transport and financial costs entailed. The STA management problems can be divided into those that were perhaps due to lack of efficiency, those due to policy choices, and those due to the structure of the scheme. For example, the supply of poor quality planting

material, inadequate supervision and training of growers, delivery of agrochemicals, and so on, are characteristic of poor internal management and practices. Problems that were due to policy decisions are such things as the choice of plucking standard, the factory investment, the rejection of clonal material, and the uncritical expansion into unfavourable areas. The structural problems are those that affect the incentives of growers and STA staff, such as the payment of average rather than marginal revenue, and the lack of accountability and control of STA. To some extent, the issues of internal efficiency were also due to "policy" decisions that caused demoralisation of STA staff. Policy decisions were themselves in part the result of structure, which influenced both the decisions made and the responses to the problems that emerged.

Parastatal enterprises, such as STA, along with other bureaucratic entities, are often criticized for lacking an appropriate structure of incentives. In contrast to a firm, they have no individual or small group of claimants to the residual with an incentive to monitor management. Management, cushioned by security of employment in government, is not directly rewarded and sanctioned according to performance. Nor, in the case of STA, is there a sufficiently strong and vociferous group of growers' representatives either on the board of STA, or working indirectly through political representation. Both channels have been attributed a role in the success of the KTDA. The responsibility for STA's performance lay in the hands of its board, but it seems to have been unable to exercise this function well. The board is made up of representatives of those with an interest in the scheme. These included government, which subsidised and underwrote the scheme and was the guardian of national interests--in this case construed largely as the growers' interests; the providers of finance, the CDC; and growers in the form of district representatives. There were also technical authorities from the tea industry to provide technical and business advice, and a representative of the Malawi Tea Association, whose members had an interest in the scheme through such issues as the quality of output, as embodied in the standard of plucking.

Growers' representatives have never been qualified or trained to monitor the performance of STA management, nor have they been sufficiently powerful to voice the growers' interests; indeed, they have not been represented on the powerful Staff and Finance Committee, while on the main board of STA they have been dominated by other board members, who are more educated, affluent, and assertive. The alternative avenue of influence, through the Malawi Congress Party, has been of limited value, since politicians have tended to look to the STA board for management decisions. The government representatives were not tea experts and expected the tea industry representatives and ultimately CDC to monitor the technical and financial performance

of STA management. CDC lent weight to this view by conducting a number of evaluations and continuing to support the scheme. But CDC, whose loans were guaranteed by the government, seems to have left it to the government to decide on the financial viability of its investment and to decide whether to accept the level of subsidies likely to be necessary. Thus CDC emphasises that it does not control the appointment or sanctioning of the managers of the scheme, who are government employees. CDC asserts that in this respect the scheme is quite unlike projects where CDC does control the management. There is little doubt, however, that the government saw CDC's continuing support for the project, given CDC's reputation for investing in enterprises on commercial criteria, as sanctioning the viability of the government's liability. Thus there were conflicting views of the responsibility for the scheme.

It is not clear why CDC did not take on management of this scheme (it did not in the case of the KTDA either); the reasons probably include the perceived need for heavy government investment and subsidies to establish the viability of the project, and doubts about the feasibility of exercising sufficient control over growers. It may be that CDC would have wanted government to bear more responsibility than in cases where government subsidies were less necessary. But it is not clear that the management decisions that have been criticised--the plucking standard, the type of planting material, the extension into marginal areas, and the investment in a smallholder factory--were uncontestably wrong, even in cases where the tea industry's research organisation recommended alternatives. As argued above, there was wide support for the decisions made,¹⁰⁷ and while the competence of STA management was sometimes questioned, it was not clear that better candidates could in fact be found.

The preference was to blame the growers, and opportunities to explore different techniques and husbandry practices were largely avoided until the original general manager was retired, at the same time that the project was in severe financial difficulties. Even then, some questionable technical decisions continued to be made (see the Guatamala Grass issue, among others). It is, of course, arguable that a much better scheme was not possible, given the limitations of knowledge and staff, and it has yet to be proven that this is not the case.

It is also arguable that the scheme's limitations were partly the result of the institutional form chosen; a centralised smallholder tea growing scheme cannot, perhaps, be as financially viable in Malawi as estates can. One question that then arises is whether some other institutional form could viably expand the production of tea by smallholders or on smallholder land in suitable areas of Malawi. A number of alternatives can be considered: STA could be restructured to clarify the responsibility for monitoring its management, for example by

having tea experts not linked to MTA, or external evaluation of STA on the lines of commercial estates' visiting agents.¹⁰⁸ Alternatively, restructuring could give growers greater representation on the board, thereby, perhaps, making STA management more subject to beneficiary supervision, and reducing growers' opportunism; or STA could be privatised; or estates could lease land from smallholders and cultivate it with wage labour; or estates could organise their own outgrowers.

It might be objected to the first two suggestions that it has not been established that STA management was avoidably unsatisfactory or that more qualified experts were available to evaluate its performance. And it might be argued there were not sufficiently well qualified growers to act as effective monitors of STA management, or that the growers' representatives could themselves be monitored. No doubt the growers' representatives' qualifications and abilities could be, and should have been, improved, for example by training in accounting practices; assistance with secretarial work, filing, analysis of STA documentation; and so on.¹⁰⁹ In practice, however, growers' representatives have often been used to communicate management decisions to growers and to attempt to obtain growers' compliance, rather than to articulate growers' interests and grievances. To some extent, growers have been able to articulate their grievances through the local Malawi Congress Party system of communication, but this channel has been of limited value in challenging the "technical" decisions made by management. Nevertheless, it seems desirable that there should be a majority of growers on the board, as is the case in the KTDA.

Privatisation of STA does not appear a practical proposition, given its precarious financial position, although, theoretically, privatisation might overcome any management motivation and supervision problems that derive from the parastatal structure of the STA, or the problems a fuller cooperativisation of the STA might engender.¹¹⁰ Commercial companies have outgrowers in Kenya and Zimbabwe. However, outgrowers in these countries tend to be larger farmers, consequently fewer transactions, hence lower transaction costs, are entailed than with large numbers of small cultivators. Larger outgrowers would also have somewhat better bargaining power vis-à-vis the estates and better access to formal-sector seasonal production credit.

One of the disadvantages of STA has been the highly dispersed nature of the smallholder area, with its consequences of high transport costs and difficulties of supplying planting material in good time and quality and of supervising smallholder activities. These, as well as some of the management motivation and supervision problems, might be reduced if smallholder tea growers were outgrowers of existing estates. However, some tea estates in Malawi have encountered financial difficulties,

especially toward the end of the 1970s, resulting in a number of changes of ownership and takeovers. Moreover, estates in Malawi have shown no interest in outgrower arrangements, largely on grounds that they would lack sufficient control to enforce contracts economically with the large number of small growers envisaged, to ensure a return on their investment. Nevertheless, estates are already moving in the direction of tenancy contracts on land that they control, although they have not yet judged conditions suitable for outgrower contracts on land they do not control.¹¹¹ The recent history of land encroachment (illegal squatting on estate and public lands) and compulsory purchase of estate land in Malawi has not reinforced confidence in the security of land rights, and probably contributes to smallholders' suspicions of tenancy and outgrower contracting arrangements, and estates' fears that they would not be able to enforce contracts with outgrowers. In addition, a number of estates that have undertaken new and replanting programmes on their own land in the 1970s and 1980s have not always achieved the high productivity that the Tea Research Foundation suggests as possible (Palmer-Jones 1983). These deficiencies have been traced to unsatisfactory management of nurseries and planting, that, in some cases, even irrigation in the field could not offset. It is also the case that much new estate planting in this period was on land of inferior quality that estate owners had chosen not to develop earlier. The idea that estates might manage outgrower planting and tea production better than STA, or with reduced subsidies, may be an illusion since many STA areas are also less favourable than those on which estate tea had been established. There may be no alternative for STA but to continue staggering along.

7.2 Implications for Contract Farming

In this section I discuss briefly the Malawi tea scheme in the context of some of the main issues raised in the literature on parastatal contract farming schemes. I will discuss in broad terms the origins of the scheme and the distribution of benefits, and the effect on basic needs provision and food availability in particular.

In Nyasaland the plantation sector was initially hostile to the growing of tea by smallholders, and the estates' behaviour since can perhaps best be described as tolerant coexistence rather than an active search to promote the scheme and benefit from it. While the estates' concern has focused on the question of tea quality and its implications for estate prices and profit, there have also been intimations of concern over the possible effects of the scheme on labour supplies. The relatively slow development of STA, however, resulting partly from its economic marginality, has brought about minimal effect on the labour market. Rapid population growth, from both native population growth and immigration, has largely determined the status of the

labour market. The poor performance of STA may have been the result, in part, of policy decisions that the plantation interests on the board of the STA supported, but these interests were hardly in a position to enforce their decisions. In Kenya much greater success probably contributed to the emergence of relative labour shortages in the late 1960s and 1970s (Collier and Lal, 1986). Plantations were unable to prevent this, but they were able to benefit at first by processing smallholder leaf and by obtaining management contracts for smallholder factories; they have subsequently been forced out of these activities, as well as out of the internal marketing of tea. The plucking standard enforced by the KTDA and STA has not been imposed by the plantations, rather it was the consensus of expert opinion, which may have been mistaken. Had they been able to obtain the land, the plantations would surely have preferred to expand on a plantation basis. In Malawi the economic marginality of tea for plantations has led to cautious expansion on what land was left to them, and to diversification into other crops, especially tobacco and coffee.

Whether tea growing in Malawi could have been expanded more rapidly or more effectively under some alternative institutional structure is not easily determined. Some tea estates have been profitable, while others have at times had losses. Their rate of new planting has been limited, in large part because of the marginal profitability of tea and general uncertainty about its future viability, particularly in the light of recurrent crises of financial viability resulting from downward pressure on and periodic slumps in the price of tea. Perhaps more tea would have been developed had estates been able to retain or purchase more of the soils suitable for tea, but this cannot be conclusively established. Plantations have continuously improved their productivity. Recently, plantations have begun to alter their contractual arrangements for labour in order to raise its productivity, which has become urgent with recent falls in the world price of tea and the inflation of other costs (fertilizers, and so on). Programmed scheme plucking provides incentives to labour more carefully tailored to efficient plucking, although the standard of plucking still has to be supervised. Other inputs---fertilizer, the plucking round length, weeding--are also decided by management rather than left to "tenant."

Because of the political imperative to develop participation by Malawians in what had been a European monopoly, commercial development of tea might not have been any more successful after independence, even if it had not been limited to land Europeans had already developed. Considerable institutional (and probably continuing technical) innovation, experimentation, and development may be necessary to maintain current levels of production, let alone to expand much further the commercially viable tea area in Malawi, whether cultivated by smallholders--

under STA or as outgrowers of estates--or by estates using tenant or wage labour.

Given high levels of world tea prices, the terms on which smallholders participate in tea production are more favourable than those of wage labourers on tea estates. When world tea prices are low, and the smallholder tea grower has low yields, returns are very low indeed, even after capital costs have been repaid. Thus smallholders are more exposed to fluctuations in the price (and yield) of tea than are wage labourers, although these fluctuations may be cushioned by government subsidies. Whether bearing more of the risk is worthwhile depends on the income levels generated: for smallholders who have good yields it is likely that their mean incomes are higher than would be true without the scheme or if they worked as wage labourers, while for those with poorly performing plots the reverse may be true. Not all smallholders could be employed as wage labourers in circumstances of excess supply of labour, since estates have been able to select more productive workers except during brief periods of peak labour demand. Moreover, most smallholder tea growers themselves employ wage labour, though usually for lower rates than nearby estates; this reflects the excess supply of labour at the real wage rate in these areas. It also means that some of the risks can be mitigated by varying the level of labour used on smallholder tea and the proportion of it that is hired. When green leaf prices rise it is likely that more labour is hired and applied; less is hired and used when prices fall. Thus labour as a whole may not receive a higher proportion of the product than on estates; nevertheless, smallholders who achieve relatively high yields and have enough suitable land, and especially the few who obtained access to public land (new supplies of which are no longer available in any significant quantity), may well have received greater benefits for their resources during periods of better tea prices, than had the scheme not taken place. But very small numbers of people, and, except perhaps during the two recent boom years, very little money have been involved.

Given the small number of growers involved in the scheme and the generally low incomes generated, STA can have done little to affect the socioeconomic structure and conditions in the tea areas. A few growers have done rather well, especially in 1984-85 and 1985-86; in part this has been due to luck in receiving good quality planting material and good quality land. Smallholder tea growers have larger landholdings than the average in the tea areas. Although exact figures for the different locations within the tea areas are not available, this is probably less true of more recently developed areas than in the earlier public land blocks. The official figures on growers' plot sizes understate the concentration of control of tea land by omitting the extent to which actual growers control more than one registered grower's plot. There was some bias in the allocation

of plots in public land blocks toward better-off Malawians with regular, better-paid, wage or entrepreneurial employment. In the customary land areas it also seems to have been those with above-average cultivated holdings who planted smallholder tea, although strictly comparable data are not available. There is as yet no evidence that control of land is becoming more concentrated as a result of this scheme, although it does appear that control of more of the tea land has been passing from less to more successful growers through the process of plot transfer encouraged by STA.

The impact of the scheme on food production, poverty, and malnutrition has not been closely studied, nor has its impact on the division of labour within the household, and in particular the use of female and juvenile labour. The tea areas were characterised by quite a high degree of poverty, epitomised by the small average cultivated plot size and low estate wage labour incomes in the 1968/69 NSSA, before the advent of the scheme. There have been no developments to sufficiently alleviate the situation. A steady growth of population and a reduction in average holding size have occurred, and real wage rates and labour incomes have barely kept up with inflation--indeed at times they have fallen well below it. There has been no general shortage of labour, and labour has continued to enter the tea areas from Mozambique. Some traditional avenues to higher incomes through migration to higher waged economies of central and southern Africa have been closed. STA has not generated enough additional employment to put pressure on estate labour supplies, and it is not at all clear how the equilibrium wage rate could have been raised under the circumstances. Growth of employment and opportunities for migration elsewhere in the economy have not proved sufficient to put pressure on wages.

One means of raising incomes might have been to develop smallholder production of other crops, either for sale or subsistence. Very little effort in this direction has taken place over the past 20 years, as development expenditure has gone to other, previously neglected regions, and into support for (mainly tobacco) estates owned by Malawians in other regions (Kydd 1984a). It appears that STA was seen as the government's main agricultural development effort for the tea areas. Recently set up agricultural development projects have received very little funding. There are no alternative, readily available, financially viable export crops in this area, even though the agricultural potential is excellent for a number of potential smallholder crops such as bananas, pineapples, possibly coffee,¹¹² other tree crops, or fruits and vegetables, largely because of the of high costs involved in transport to export markets. It has been suggested that more could have been achieved by the canning factory established in Mulanje by ADMARC, the marketing parastatal, if it had been more commercialised, but this cannot be established here.

The development of smallholder tea has probably had little impact on food production, not just because it covers only a small proportion of the cultivated area, but also because in a large number of cases the soils are not suitable for food crop production. Some of the public land in the lower rainfall areas which was reserved for tea when it was taken over from estates, could grow food crops, and it has been claimed that the returns would be higher than returns to smallholder tea (AES 1976:128-142). But this conclusion probably does not apply to all the smallholder tea areas (and was based on yields of maize higher than the average for the tea areas reported in the 1981/82 NSSA).¹¹³ Also, to maintain these yields requires chemical fertilizers. Tea grows on acid soils in high rainfall areas, much of it on quite steep slopes unsuitable for annual crops using existing techniques. These soils can be cultivated with maize, cassava, and other food crops for a number of years, but quite a few smallholder tea growers stated that they started growing tea because the yields of the other crops had fallen too low to be worthwhile. While it is possible that more would have been achieved if greater efforts had been devoted to the development of alternative cash and/or food crops, this cannot be firmly asserted on the basis of the evidence available.

It is often assumed that contract farming has been introduced in response to political changes associated with the end of colonialism, and that such schemes have been in the interests of transnational corporations (TNCs), which often had been producing the same crops during the colonial period on a plantation basis. Critics list the advantages of contract farming to TNCs, including avoiding the difficulties over foreign ownership and control of land--for example the risk of expropriation--or squatters and land encroachment; avoiding the cost of investment in land; avoiding problems of employing wage labour, especially as it becomes increasingly unionised; avoiding welfare and overhead costs of employing labour; retaining the ability to control production through supply of inputs and control of marketing; having access to government aid and subsidised credit for infrastructure, capital, recurrent costs, and seasonal production credit. It is also asserted that contract farming schemes have increased poverty and malnutrition reduced food production, and, where substantial benefits have occurred, it is suggested that this has been at the expense of the poor and underprivileged.

There is often considerable validity in these assertions, but they are not the full story; from the point of view of TNCs, contracts are often second-best adaptations to political developments that carry such institutional implications as the prohibition of foreign ownership of land or the establishment of minimum wage rates above the opportunity cost of labour. The negative view also tends to neglect the local benefits of

contract farming and similar schemes both to the government and to the participants. This view implies that some other means could have resulted in more desirable developments. In Malawi, plantations have been forced to intensify production on existing land rather than more extensively, and their input costs have risen, forcing them into greater reliance on imports of chemical fertilizers. The minimum agricultural wage may not have risen relative to the cost of living, but it has not resulted in noticeable shortages of labour, given the continuing supply of migrants from across the border with Mozambique.

While it is clear that contract farming does not abolish all social problems, the implication that there was a better alternative is often a matter of faith that cannot be established merely by pointing to the continuing poverty and inequality in these areas at the same time that the companies make profits, or even by pointing to contractual terms apparently constraining the participants. It must be established that the companies have a predominance of bargaining power, and that if the results of this bias were to be redressed, some other way of organising production would be judged better. This "other way" would have to confront the realities of combining different factors of production in the ecological, economic, social, and political circumstances; overcoming labour and other incentive problems; coordinating production; and adapting to changing output and factor market conditions. Smallholder schemes may be an understandable result of changes in the distribution of ownership and control of assets consequent on political independence, that is, they are ways of organising production when land is owned by labour rather than by capital. It may be that more desirable outcomes could only result from further redistributions of power and assets, or it may be that there are less drastic ways of improving the outcome by reorganising production. Such a reorganisation, however, could not neglect the incentive problems for all factors involved in the production process under the actually existing distribution of resource ownership and control, and the social and cultural resources required for solving these incentive problems.

8. Appendix 1

The Kenya Tea Development Authority

The Smallholder Tea Authority in Malawi (STA) has been much less successful than its slightly older, and better known, close relative in Kenya, the Kenya Tea Development Authority (KTDA), which has been the subject of a considerable literature (Cowen 1981; Swainson 1980 and 1986; Lamb and Muller 1982; Buch-Hansen 1983).¹¹⁴ Much of the early discussion about and planning of the STA was related to the KTDA. The origins and policies of the KTDA, which in many cases were quite similar to those of the STA--for example emphasising control and fine plucking--have been both applauded as correct and appropriate, and--contrarily--seen as manipulations by the plantation companies and others. Consequently, it will be useful to discuss some of the issues raised in the Kenyan literature as a contrast to some of the issues raised in discussion of the Malawi experience. This is not a comprehensive account: it concentrates on the issue of the plucking standard, which has been central to the contention that tea plantation interests manipulated the KTDA to their own advantage (see also Palmer-Jones 1987 for a more focused discussion).

The KTDA, along with other Swynnerton Plan activities, has been seen as arising out of internal pressures against the settler economy and external pressures for decolonisation. A major theme in discussing the KTDA has been whether the interests of those who negotiated and implemented it--characterised as international and British capital--were inconsistent with national interests or the interests of the farmers, especially whether the latter were impoverished. Many of the same issues arise in the case of STA. I attempt to advance the argument by concentrating not only on the origin of KTDA but also on the effects of the contractual terms employed and the logic of behaviour by different categories of growers.

In Malawi there was some discussion of the possibility of peasant production of tea in the early 1930s (Palmer 1985:218), but the issue of African grown tea in Kenya seems to have first arisen during the period of the International Tea Agreement, to which British East and Central African colonies were parties from 1938 to 1948. While the International Tea Agreement may have nurtured the Nyasaland industry, it is widely thought to have imposed severe restrictions on the growth of the Kenyan plantations (McWilliam 1957; Swainson 1980; Palmer 1985). Kenyan Ministry of Agriculture officials were aware of the implications of this when they discovered that some Africans had planted tea. Thus it was noted in 1946:

If you will refer to the "Ordinance to Provide for the Control of the Production of Tea in the Colony," No. XLVI of

1934 page 238, you will see that only tea planted before that date could be legally allowed to remain. You may know that Kenya is very strictly controlled internationally and can only plant up to the total quota allowed. . . . In the meantime I would suggest that you get a count of growers and the number of trees per owner, and, if possible, some idea of the age of the tea. I would also recommend that you prohibit all further planting (P. Chambers, SAO Central Province, to Asst. AO, Fort Hall, 7 February 1946, KNA AGR 4/166).

The Director of Agriculture in Nairobi was informed:

[1] It was discovered some time ago that a number of natives in the Fort Hall district are growing tea, and in consequence I asked for a detailed list, as attached. . . . It is being done in the high country . . . where conditions are undoubtedly very suitable. . . . 2. The trees are owned by odd natives, two of whom have some three to four thousand each but most growers own from two to fifty trees. They are tucked away in sheltered places, and generally interplanted with other crops, and have escaped our notice 'til over a year ago, when I called for information about the "industry." 3. It is my firm belief that these natives have not planted tea under any idea of wrong doing, but merely to supply a much needed local demand. As far as I understand they are preparing it at their homes and using it there and in the local tea rooms. 4. Instructions were given last year for no further planting to take place, and again this year, both by the DC and our Department. 5. The position is a most difficult one and I would fear repercussions, should an order be given for uprooting and hope that something can be done to regularise this local activity (SAO CP to Dir. of Ag. Nairobi, 20 April 1946, KNA AGR 4/166),

to which the Director replied:

While it was realised that plantings subsequent to 1938 contravened the conditions of the International Restriction Agreement, to which this government is a party, in that the plantings were made without a license it was decided that no action was necessary and that no steps should be taken to get the trees uprooted, but that action should be taken by you to assure that no further plantings by natives in the province takes place (Dir. of Ag. to SAO CP Nyeri, 26 April 1946, KNA AGR 4/166).

The issue does not seem to have gone any further until 1948, when the SAO CP wrote to the Director of Agriculture:

A recent meeting of the Fort Hall District Team decided that tea growing should be encouraged. Since then the Senior

Assistant Agricultural Officer Fort Hall has had an application by an African for permission to plant tea. The crop would be processed locally and sold internally in the district. 2. I imagine such applications must be considered by you and by the Tea Board and I would like your advice on the matter. I can see very little harm in allowing such plantings purely for internal use and feel that the very small quantity likely to be produced will not materially effect sales of tea by the established companies. In any case is one justified in withholding permission to plant a crop for local consumption? (SAO CP to Dir of Ag. 2 February 1948, KNA AGR 4/166).

Plans were made to plant some tea seed to provide planting material,¹¹⁵ and, as in Nyasaland, an approach to the Kenya Tea Growers Association was seen as necessary. It was not thought necessary to proceed with the same degree of caution, however, although this is surprising, given the view that the Kenyan government was strongly influenced by white interests. The Director of Agriculture (G. Roddan) wrote to the KTGA with a copy of the proposed Native Grown Tea Rules and was invited to attend a meeting where the matter was discussed. His letter raised the issue of the method of manufacture:

Whether the government should foster this development [of African grown tea] on existing lines in order to meet a local need, or whether we should discourage this system of home curing and insist on organised development on modern lines with up-to-date factory equipment is a matter I would like to discuss with your Association. But tea is being grown by Africans and home cured and I think your Association will agree that powers to regulate the development should be taken at an early date. I have accordingly drawn up simple rules following the lines of the Native Grown Coffee Rules. . . . You will note that these rules only cover cultivation and do not touch on manufacture or sale except for section 14.¹¹⁶ My own feeling is that we cannot go further at this present stage, but again this is a matter on which I would like your Association's views. Another point is whether in the event of our being able to establish a sufficiently large and compact area to justify the erection of a factory any member of your Association would be prepared to participate say to the extent of erecting a factory. I can see many snags to this but again I would like your Association's views. (Dir of Ag. to Sec. KTGA, 29 July 1948, KNA AGR 4/166)

The Minutes of the meeting report that:

Mr. Roddan then explained that he had approached the Association on the subject as it was realised by his Department that they knew very little about the organisation

and details of the tea industry in East Africa, and did not wish in any way to clash with an already established industry. He also pointed out that tea was being grown by Africans in a very small way particularly in Central Province.

On being questioned by the meeting, Mr. Roddan admitted that such teas were being grown without license or any official permission. He did not know the total acreage of native grown tea, but undertook to find out and inform the Association.

The meeting expressed its disapproval of any form of "back-yard" cultivation, but had no objection to the growing of tea by Africans in certain defined areas provided such areas were not immediately adjacent to European areas. It was realised that native-grown tea would have to be in the neighbourhood of an established factory or that factories would have to be erected in such areas either by government or private enterprise. The meeting approved of Mr. Roddan's draft rules. . . .[but] 3(2) (c) should be altered to read 'economic considerations affecting the area'¹¹⁷ (Minutes of the Kenya Tea Growers' Association Committee Meeting of 29 October 1948, KNA AGR 1/246).

Given that they felt their own planting was being severely restricted by the agreement and the general context of licensing and control of production of cash crops at the time, it is not surprising that when Kenyan estates found that Africans had been planting tea in the 1930s and 1940s and selling it locally, they supported the proposals of the Director of Agriculture. Indeed, in view of the wrangling over the allocation of quotas to Kenyan estates to supply the protected local market (Swainson 1980:79-92), it is somewhat surprising that the KTGA did not go further and, perhaps, insist on uprooting the unlicensed tea. However, at this time only a very small quantity of tea can have been involved; a total of just over 26,000 bushes--equivalent to some 50 acres of estate tea--was reported to have been planted by Africans. Also, the KTGA, where voting was according to acreage rather than estate, was dominated by two companies--the African Highlands subsidiary of James Finlay, the largest tea plantation company in the world, and Brooke Bond, which was not only a very large plantation company, but also a tea broker, blender, and wholesaler. Both companies had a strong interest in tea estates outside Kenya, and had perhaps a broader perspective than settlers and smaller local tea companies. Nevertheless, it seems clear that both restrictions imposed by the international agreement on planting and restrictions on access to the protected domestic market motivated concern about control of African grown tea at this time.¹¹⁸ The Director of Agriculture's report on the meeting states:

They [the KTGA] reaffirmed that they had no objection in principle to the growing of tea by Africans, but it was clear from the discussion that they would not be keen on tea growing by Africans adjacent to existing estates and would, I think, appreciate being assured that before any area near to existing tea is scheduled as an area for African production that they would be consulted. They did not think that a native tea industry should be developed on back-yard cultivation owing to the difficulty of inspection and control; nor did they think it a practical proposition that Africans adjacent to tea estates should grow tea and sell leaf to existing factories. They thought that if the industry was to develop it should do so on cooperative lines with concentrated production for the central factories. They of course emphasised that any such development should be under strict control by this department and deprecated the fact that the government had allowed even back-yard cultivation to take place in the Central Province with what was almost certainly stolen material. They agreed that legislation was necessary in order to regularise this position and that the draft appeared to adequately cover all the points concerned (Roddan to SAO CP, 11 November 1948, KNA AGR 4/166).

The Department of Agriculture pressed ahead with an enquiry to their counterparts in Nyasaland, then the premier tea producer in Africa, about the feasibility and economics of establishing an African tea industry with its own factory (KNA 4/166, Department of Agriculture, Southern Province Nyasaland to Act. Dir. Ag. Nairobi, 9 September 1948). The response from Nyasaland suggested a return, after allowing for depreciation of the capital expenditure on a factory, of £10 per acre. This was not as much as could be obtained by current methods:

£10 per acre gross return is not a high figure and compares most unfavourably with that received for the production of native tea at present. Taking the yield at only 500 lbs per acre, which is probably a low figure, the price of sh 1/50 per lb. which is now obtainable, gives a cash return per acre per annum of £37.10.0.

3. I think it most unfortunate that the KTGs dislike the idea of native tea grown in proximity to the European estates. The most economical method of trying out tea grown by natives on a factory scale is therefore denied to us.

. . .
4. Is it disease or theft which is scaring the tea companies? If the former I consider there should be little cause for alarm and for instance coffee grown by Africans where I consider the standard of control imposed by this department is stricter than on many European coffee farms. I do not consider theft of green leaf on any scale is likely

from well run tea estates, and it should be easy to check deliveries of green leaf supplied by native growers with the acreage of tea registered in their names (J. T. Moon, SAO CP to Director of Agriculture, 2 December 1948, KNA AGR 4/166).

Both Cowen and Swainson argue that opposition from the estates, and Brooke Bond in particular, was based on fear of competition for the domestic market for tea:

The material fear of the company [Brooke Bond] was that back-yard production would compete with estate production of tea, designated for internal markets, whilst it would be the state, in conjunction with merchant capital, which would appropriate the profits out of expanded household production (Cowen 1981:135).

and Swainson

In the early 1950s Brooke Bond had been reluctant to assist the scheme, fearing that the development of smallholder tea might affect its own dominant positions. Soon, Brooke Bond realised that it could fashion the smallholder scheme to its own advantage. The condition of Brooke Bond's participation in the smallholder development was that the government remove the threat of illegal sun-dried tea to its low-cost market (Swainson 1980:258).

Cowen and Swainson also see the production of high quality tea as being in the interests of "international capital;" Cowen states that

[C]onflict raged within the Department of Agriculture not only over the form of manufacture but over the quality of tea to be produced. . . . At the other extreme, the then most advanced form of manufacture was proposed at a cost of £100,000 to realise the highest possible price for made tea manufactured from high quality leaf. . . . [I]t was . . . [this proposal] . . . aligned to the desire of Brooke Bond, which was implemented (Cowen 1981:136).

and Swainson:

The tea companies insisted that the smallholder leaf be of a higher standard than the estates--that only two leaves and a bud should be plucked--and this should be enforced. . . . This meant that Brooke Bond was able to purchase the higher quality smallholder tea and blend it with its own lower quality tea. The unit costs of production for smallholder factories were obviously higher, a price which was not borne by Brooke Bond but by the government parastatal (Swainson 1980:258).

It is not clear that this interpretation--that the banning of sun-dried tea and the preference for high quality tea made from fine plucked leaf were determined by these interests of international capital--is correct. First, as both authors point out, the banning of sun-dried tea was enforced only from the early 1960s,¹¹⁹ when it had expanded greatly compared to the early 1950s, although the possibility of controlling it existed from the Ordinance of 1948. No doubt there was opposition to the banning of sun-dried tea from the Central Province Tea Growers Association, and the tea companies favoured both control and manufacture of tea (since they would be able both to buy the product and to benefit from management contracts in the tea factories to be established) for the world market. Yet much of the discussion about the quality of tea and the type of manufacture for African grown tea took place in the early 1950s, when production and sales of sun-dried tea must have been insignificant (since presumably no more planting by Africans other than under the control of the Department of Agriculture took place), and with little reference to the tea companies. There is no record at this time of the tea companies' showing great concern about sun-dried tea, and, as we will see, the debate was largely internal to the Department of Agriculture.¹²⁰

Second, while there was debate about the appropriate type of factory, as to whether to build a low cost factory producing "not very good tea" mainly for a low income local and export market,¹²¹ the bulk of the argument within the Department of Agriculture was in favour of the production of the "best possible tea." The logic of this position was partly derived from the assumption that most smallholder tea would be sold on the international market,¹²² and partly from the experience of the depression, when it was argued that better quality teas suffered less of a fall in price than poor quality teas and "restriction on estates took the form not of abandoning tea areas but of plucking finer leaf" (Harler 1951:27, 1963:249. This view was of course also held by the tea companies. In the letter from the Brooke Bond director that Cowen quotes in support of his argument, the following argument is made in support of the use of vegetatively propagated material, but it is also applicable to the question of the "quality" of the made tea:

Although tea production today is profitable, so is much of the agriculture in Kenya. This has not always been so.

To compete in the future, the old methods must give way to the new. The extra yield and higher quality of vegetatively produced plants will be an overwhelming advantage in competitive days.

If public money is going into tea for Africans, it would be well do distinguish between "short term" and "long term"

policy (BB EA (Ltd) to Dir. of Ag. 2 January 1950, KNA AGR 4/166).

As far as I can see, the director saw no need to mention the form of manufacture, assuming that modern manufacture would be employed. Moon, the SAO CP largely responsible for pushing the project for African-grown tea, wrote to the Director of Agriculture apropos of the salary for a factory manager, "As so much will depend on the production of high quality made tea, it is considered that a salary of £720. . . would not attract the best type of factory manager. . . . [T]he factory manager should receive a commission based on the quality of tea manufactured" (23 February 1951, KNA AGR 4/166). The Provincial Commissioner for the Central Province, D. J. Penwill, wrote, "I think it is very important that we should aim to produce the best possible tea, both in quality and marketability " (25 July 1952, KNA AGR 4/166). The AO Nyeri (G. Gamble) in a letter to the director of agriculture said:

It is for this reason that the factory . . . must be capable of producing a high quality product. It means that the grower will receive a high return per acre and result in the scheme being a success. . . .

In conclusion, if an inferior factory is to be constructed capable of producing "not very good tea" then I prefer not to take any part in its design. . . . (30 July 1952, KNA AGR 4/166).

In a letter to the engineer charged with design of the factory, the AO Nyeri wrote:

I feel that if the tea scheme is to go ahead then every effort must be made to make it a success. The machinery must therefore be capable of producing a good quality tea and thus ensure the highest return per acre possible (19 January 1953, KNA AGR 4/166).

In an appraisal of the Nyeri tea scheme in 1952, the SAO CP wrote:

Principles that must be followed:

- (a) High quality, high price and . . . high return to grower if scheme to succeed.
- (b) Machinery capable of producing quality leaf.

The onset of the emergency brought a change in thinking:

We accept the fact that the emergency has seriously disrupted the plan. . . and we therefore now advocate a pilot scheme on the cheap to produce a low quality tea for local consumption. . . . [W]e must on no account discard the

scheme at this stage and . . . a small factory must be constructed so as to honour those who have already planted and so as to encourage development for the full scheme (DC Nyeri to Provincial Commissioner CP 14 July 1953, KNA AGR 4/166).

Two years later, however, the situation had returned to its previous state:

The rule at Kimalot should be fine plucking i.e. two leaves and a bud. . . . It must be understood that the marketing and processing of tea is not quite as easy as it sounds in that considerable organisation is required to make sure that the tea is plucked at the right time, is of reasonable quality (two leaves and a bud) and is not unreasonably delayed in being brought to the factory (G. Gamble, Distr. Ag Officer, Northern Nyanza, KNA AGR 4/169 nd {1955}).

and in his "Some useful notes for the African Tea Planter":

two leaves and a bud only should be plucked, that is the bud and top two leaves. If the third and fourth leaves are plucked the quality of the tea made will be spoiled and so the price for the tea will be reduced. Tea is sold on quality and a little tea of high quality will be more profitable than a larger quantity of low grade tea sold for lower prices.

It is impossible to fix a plucking cycle . . . so that the running of the factory can be kept constant and efficient (KNA AGR 4/169).

Thus very much the same conclusion was reached as, later, in Nyasaland, without any reference to the question of sun-dried tea or the local market; the decision in Nyasaland was made after reference to the Kenyan experience. Furthermore, even in 1986, the KTDA continued to employ a "fine" plucking standard in the belief that it gives the highest return to growers (interview with Mr. Mbeya, Agricultural Manager, KTDA, October 1986).

Third, there was another reason for banning of sun-dried tea. As Cowen goes on to argue, "The production and sale of sun-dried tea not only threatened Brooke Bond's control over domestic markets but also subverted the form of control which had been designed to expand household production" (Cowen 1981:137). The production and sale of sun-dried tea from bushes obtained with finance from the Special Crops Development Authority allowed growers to evade repayment of loans covering the cost of planting materials, which were made by deduction from the payments made to growers from their sales of green leaf to the factory.

Thus it does not seem necessary to invoke the influence of the tea companies in determining the decision to aim for high quality teas instead of sun-dried or lower quality tea, although varied arguments may have been advanced at one time or another. The evidence presented above suggests that it was the decision of the Department of Agriculture to opt for fine plucking, and the banning of sun-dried tea was seen as essential to the way in which financing was organised. This was also the explanation given by the Director of Agriculture, (Sir) Roger Swynnerton, who remembered the sun-dried tea episode as very insignificant, and suppressed, he thought, at the instigation of the department rather than at the behest of Brooke Bond. On the fine plucking issue, he commented that Gamble, the agricultural officer in charge of African tea growing, argued the case with his brother-in-law, Beakbane, a director of Brooke Bond, the latter supporting the case that a coarser standard was more economic (Swynnerton, taped interview, 17 December 1986).

These policy decisions seem to have been determined in large part by the relatively autonomous common sense views¹²³ of the officials of the Department of Agriculture, rather than at the behest of the tea companies or CDC, although, as noted above, the companies were no doubt keen to protect their domestic market.¹²⁴ This is not to deny that there was a conflict with local producers and traders of sun-dried tea. It is, of course, possible that once tea had been introduced into Kenya and had then fallen into the hands of Africans, they could have expanded production to supply a large part of the domestic market with sun-dried or simply manufactured teas, and this would have been achieved by local capitalists. That may or may not have led to a less "dependent" position. But it is unlikely that the market (domestic and international) for sun-dried tea would have expanded so rapidly (would the local capitalists have been able to finance the rapid growth in production?); moreover, it also seems clear that the scheme as constituted has given rise to considerable benefits to the growers (Buch-Hansen and Kieler 1983), even if distributed somewhat differently.

Nor, in my opinion, can it be argued that the aims, or even the functional effect of the machinations of international capital were to shore up household production, and prevent the emergence of local capitalists. Rather, the effect of the policy decisions about the form of smallholder tea production in Kenya in expanding production, and at least temporarily stabilising the "middle peasantry," was the unintended effect of policies that had a logic of their own, represented by the thinking of tea experts and the Department of Agriculture officials, as well as being influenced by local politicians, the tea companies, and agents of international capital.¹²⁵ Thus I would argue in favour of modifying and enriching the "functionalist" and "determinist" logics of Cowen and Swainson, with rather more "dialectical" and historically specific explanations.

ENDNOTES

This study would not have been possible without the cooperation of the Director of the Tea Research Foundation in Malawi, the General Manager of the Smallholder Tea Authority, and their staffs.

1. Up to April 1982 the Malawi Kwacha was pegged to Special Drawing Rights (SDRs) at the rate of approximately MK1.7 to Stgfl.0 (US \$0.9); it was devalued by 15 percent in 1986 and again in 1987.
2. Laws of Malawi, Special Crops Act, Ch. 65, (1974) (STA Order).
3. The tea crop year in Malawi usually runs from July to June; most of the crop is harvested and processed in the months from December to April (70-80 percent). Planting years are referred to by the year in which the June falls; planting (in the absence of irrigation) generally takes place from December to March, but is best completed as early as possible.
4. An important case involved the efforts of the Mulanje Growers' Representative to persuade farmers to take up tea in the 1970s, and in another case to persuade growers to pluck more in the early 1980s (see Mulanje District Committee Minutes). A view of the attitude of the management is revealed by the response of the then general manager to a request by the district committee members for allowances for growers' representatives who were working with growers: "The general manager in reply said if they were spending most of their time in helping other growers, there would not be as much deficit as 2 million pounds of green leaf" (District Committee Minutes, 9 July 1979).
5. For example, the appraisal by CDC in 1977 expected that the average annual project costs from 1977 to 2000 would be K241,000, to which the government contribution of about K286,000 should be added. (See CDC 1977 page 32 for the annual costs and, for the government's contribution, Appendix II, schedules 14 and 15 and page 35).
6. I have not heard the level of the second payment for 1985/86; the Board of the STA recommended 3.0 tambala, on top of a first payment of 12 tambala per kilogramme of green leaf. The Growers' Representative thought that such a low level would lead to severe problems, and he proposed to resign if the government approved it.
7. Sources include CDC 1974 and 1977.
8. MK1.63 = Stgfl.00, February 1977.

9. The full cost of the Malawi Government's contribution (which includes aid funds) may be greater than this since, in one of the studies (one that did not give the lowest proportion of government expenditure), only a portion--50 percent--of road and bridge construction and maintenance costs have been charged.

10. Total CDC loans (excluding the factory, which is also excluded from the above) valued at MK1.63 = Stg£1.00, came to MK2,707,430.

11. Some of the government's costs would generate additional benefits--for example, spending on roads and bridges. Moreover, some extension staff would have been allocated to the area anyway. But at the same time, no allowance has been made for benefits forgone by the project allocations.

12. As we will see below, this threat exists more in principle than practice, although a few growers have been expropriated. Nevertheless, growers generally feel threatened and vulnerable to the powers of the STA.

13. Swainson notes, in relation to the KTDA, that: "to juxtapose 'public' and 'private' development routes as alternative policy options [neglects] the intertwining of public and private as well as local and foreign" (Swainson 1986:44).

14. See also Courtney, 1965:179, 183, and elsewhere; Wickizer, 1944:17, Harler, 1966:230; Eden, 1965.

15. See, however, the discussion of sun-dried tea in Appendix 1. Michael Cowen (personal communication) argues that there could have been a very rapid expansion of the sun-dried tea market, which could have been supplied by backyard manufacture.

16. Another very important process is the establishment of the tea in the ground, which in turn is affected by climatic and environmental conditions. In some environments this is relatively easy, and management skills or technologies involving economies of scale may not be necessary, thus posing no barriers to smallholder production. But in other circumstances, where the process is skill- or technology-intensive, estates or plantations may have advantages of access to and processing of information. Of course, if inexpensive, scale-neutral means of obtaining knowledge are developed, or technical or institutional innovations are found that overcome the costs involved in its distribution, smallholders may not be so disadvantaged. If common pests or diseases can be controlled by technology, knowledge, and/or capital-intensive techniques, here too estates may have an advantage.

17. The level at which the shoots are plucked is another variable sometimes mentioned as a component of the "plucking system."

Thus, "hard plucking" involves leaving less of the shoot on the bush, while "light plucking" leaves more, resulting in a more rapid rise of the plucking table.

18. See Grice and Clowes (1986) for a technical exposition.

19. Helpers increase the supply of labour power to the estate without increasing the number of labourers and the overhead associated with them.

20. For example, by maintaining fertilizer levels.

21. Or rather, a number of plots; this allows some randomisation of tea areas among pluckers to even the distribution of good and bad plots, and allows the estate to concentrate pluckers in a limited area for plucking each day, for residual supervision.

22. Hayami and Ruttan, 1971; Ruttan and Hayami, 1984; Ruttan 1982.

23. See for example Chanock, 1975. Recently the works of McCracken 1982a, 1982b, 1983, 1984; Palmer 1985, 1986; Vaughan 1984; and Beinart 1984a, 1984b have provided considerable archival detail on agricultural matters in the colonial period. They do not, with the partial exception of Vaughan (1984), go into questions of the link between class and politics.

24. That is, the equivalent of the work of Leys (1974), Kitching (1980), and Cowen (1979) on East Africa.

25. See for example the memorandum by W.M. Chirwa to the Secretary for State to the Colonies, A. Lennox-Boyd, in 1956: "It is not possible for Africans to compete in open markets with farmers of other races. . . . The fact that the balance of the price [received by Marketing Boards] goes to swell the Native Development Funds does not create an incentive for the individual grower to produce food."

26. As was recognised by the Provincial Commissioner for the Central Provinces in 1924: "[T]he development of an African tobacco industry would reduce immigration to Southern Rhodesia and . . . 'It also affords the native a method of earning money without having to work for someone else, which is just what the natives have been longing for'" (Chanock 1975:240-1).

27. The minimum agricultural wage, to which daily and piece rates for labour in the tea industry are tied, rose from 24 tambala (t) per day in the early 1970s (100 tambala = MK1.0) to 26 t in 1974, 30 t in 1980, 50 t in 1981, 58 t in 1982, 70 t in 1985 and 77 t in 1986. Over the period 1970 to 1985, the minimum agricultural wage rose from an index of 100 to 291, while the low-income price index rose to over 425.

28. See Kydd (1984b) for an account of how agricultural development projects in the 1950s were almost the blueprints for the Lilongwe Land Development Project.

29. (Sir) W. Tait Bowie, (Sir) Malcom Barrow, and G.G.S. Hadlow. The report notes: "The development of this crop [tea] is controlled by the International Tea Committee and it is therefore not possible to formulate plans locally. . . . Plans are being made for the training of selected 'ex-Askari' after the war for professional employment on tea estates" (pp. 117-120).

30. Thus, E. Williams, Director of Agriculture in Zomba, in correspondence with G. Roddan, his counterpart at the time in Nairobi, writes: "The question of growing tea by Africans has again been raised in this territory. . . ." (MNA AGR A 8/1 A, Tea Production by Africans, 1955-61, 7 July 1955).

31. Which I have not been able to locate.

32. Elsewhere he notes: "It was also hoped that Africans inhabiting the tea areas could be persuaded to turn to this high valued crop of proven suitability instead of inefficient monocropping with subsistence maize" (Kettlewell 1965:266).

33. Interviews with Kettlewell, Sandys, Dewar, Smith, Johnson, and Wilmott in November and December 1986.

34. Replacing Kettlewell in the aftermath of the emergency of 1959, in which he (Kettlewell) had played such a prominent part that it was considered appropriate to move him from the sensitive position of Director of Agriculture to that of Secretary for Natural Resources.

35. Kettlewell noted "this will have to be handled most delicately! I don't much like the idea of coffee. H.E. told E.W. (R.W.K.'s deputy) that we should now go for coffee not tea in the Cholo area."

36. Public land was land purchased by the government from estates, largely as a result of the Abrahams Report of 1946, which recommended defusing political tensions in the Southern Highlands by a programme of purchase of unused land from estates, to be used for settling Africans. Some estate land already settled by Africans under the Thangata system was also purchased, but considerable areas remained in the ownership of estates.

37. When I interviewed Sandys he said that the fear of theft of tung had been unrealised.

38. One former PAO remarked that it was a little difficult to pick two-and-a-bud at midnight.

39. The other side to this argument was clearly expressed in his paper "An Outline of Agrarian Problems and Policy in Nyasaland": "LIIII. Reducing it to its essentials, the object must be to create a class of professional farmers with sufficient land to derive a reasonable standard of living and to remove the subsistence cultivator from the land and into other employment. No other policy can safeguard the land. . . ." (Kettlewell 1955:3).

40. There is one other area suitable for tea in the north of Malawi, but transport problems are considerably more difficult than in the south, and tea growing has grown very slowly and precariously there.

41. In fact, a considerable number of estates had responded to the request to assist in the Committee's itinerary negatively: "through lack of staff and pressure of work, they are unable to offer their estates for inspection by the Committee or accommodation for its members" (Secretary NTA to Director of Agriculture, 2 May 1962, MNA Conf 8/1A Vol II).

42. While it seems that incomes of participating smallholders are substantially greater than their non-participating neighbours, the distributional impact has been less satisfactory, in that the the smallest classes of cultivators have not participated directly and there are fewer female growers than one would expect (Buch-Hansen and Marcussen 1982).

43. See also Palmer-Jones (1981) for the case of colonial rationalisations of the need for control on irrigation schemes in the north of Nigeria from the mid-1920s.

44. It is accepted now that Kettlewell was too keen on soil conservation and not keen enough on the introduction of cash crops as a means to obtain compliance (Interview, Swynnerton, 18 December 1986).

45. However, the Growers' Rules promoted by the STA allowed for up to six months imprisonment for infringement, although I know of no implementation of these provisions and suspect they are politically inoperable.

46. See Palmer-Jones (1987) for a more extended discussion of the plucking standard issue, which repeats much of the historical material but provides agronomic evidence and economic models that illuminate and justify the argument that a three-and-a-bud standard is probably optimal for both smallholders and estates.

47. There are many other components of quality and of the final price obtained, but the ones mentioned were those generally discussed in the present case. There is no doubt that in terms

of the final price realised in the oligopsonistic world tea market, selling strategies for made tea are probably also highly relevant.

48. While not relevant at this juncture, it is worth noting that on at least one occasion (in 1986) the STA uprooted illegally planted tea where the seedlings were of very poor genetic material. This incident shows that existing growers, if left to themselves, may well plant unsatisfactory material that could harm the scheme as a whole.

49. This argument was strongly supported by the former Directors of Agriculture in both Nyasaland and Kenya in 1960 (interviews with Kettlewell and Swynnerton, December 1986).

50. The same point is made in circular 67/14 of 25 July 1967, following the Association's submission to the government in 1967 for assistance in the tea industry.

51. Some 4,000 ha of tea in Malawi is of the "local" China Hybrid type, mostly planted before 1940. In contrast, the tea industry in Kenya largely grew after World War II, when it was realised that the Assam type tea plant had higher quality and yield potential; it was also cheaper to pluck because shoots of acceptable quality were larger than those of the China Hybrid types.

52. For example, it was repeated to me by Sir Roger Swynnerton, reporting the view of Graham Gamble, in an interview on 17 December 1986.

53. Other issues relate to the effect that a coarser standard by the KTDA might have on the world price, and the relative costs of smallholder labour and enforcement compared to estate costs. Nevertheless, the conclusion seems likely to have been based on erroneous facts and logic.

54. I am grateful to Niel Spooner, formerly ODA fellow, President's Office, Lilongwe, for this reference.

55. It appears that it was difficult to convince the GM in 1982, when the STA was in a financial crisis, that a second factory was not desirable (Smith, interview, 1986).

56. Standing for Malawi Tea Company.

57. It is evidence of the tension between the Director TRF and the GM STA that the latter felt it necessary to reply that between 1964 and 1972 some 2,000 acres of smallholder tea had been planted to jats other than the polyclonal seed bred at TRF. This letter makes no mention of the points about nitrogen

fertilizer and plucking standards (GM STA to Director TRF, 13 November 1979).

58. This meeting also discussed problems of encroachment of African agriculture onto estate lands.

59. In the draft legislation it seems to have been expected that the director of the TRF would be a member of the board, but this does not appear in the legislation. Two explanations have been suggested to me: first, that rivalry between the director TRF and the GM STA led the latter to oppose the director's appointment (Wilmott, Standen, Brown, interviews, December 1986); second, that the chairman of the board of the TRF opposed the director's appointment because he was newly in post and fully occupied (Ellis, interview, November 1986). Ellis said he thought he would have accepted this, partly because he did not wish to be in a position where he might conflict with the chairman or a prominent member of his own board. Finally, Ellis reported that he may have been excluded because he had raised the question of whether the government would have been able to exercise the necessary control. Ellis's attitude toward the smallholder tea grower changed in 1979 when TRF sought and received a large grant from UNDP to undertake research for the smallholder growers (Standen, interview, December 1986).

60. That when factory capacity was underutilised, the net revenue on purchased green leaf would be the sales price less manufacturing and selling costs only.

61. It must be noted, however, that when negotiating a green leaf contract between one group of estates in Thyolo and the STA, following the 1982 reappraisal, the Tea Association member of the STA Board insisted that the leaf contract should be at least as favourable as that of TRF, if not better.

62. I tend to the view that new technology is developed because of the inadequacy of the old, and that appropriate technology is what is required. In this case there were areas where existing technology more appropriate to the smallholders was available, or could have readily been developed had a need for it been perceived. Recent developments of appropriate clones and small-scale vegetative propagation techniques for smallholders are evidence of this.

63. Standen's place was taken by the Permanent Secretary, Mr. Mbale, who was a close friend of the MTA representative on the board of STA.

64. It is not clear if the two tea planters were included in the Mission as representatives of the Nyasaland Tea Association, the association of tea planters and estates, or as experts on the production of tea.

65. "Quality should also be considered . . . because common teas only produce a small cash return per acre. . . . It is often stated that coarse plucking produces the higher cash return per acre, but we consider that properly plucked tea not only gives the higher yield in green leaf but also produces the higher cash return per acre, which is the important thing to the smallholder" (CDC 1962). This is clearly the voice of Graham Gamble.
66. CDC 1963: 7.
67. CDC 1963: 48.
68. One of the African members of the Mission stated in the 9th meeting of the 76th Session of LegCo in 1963: "Mr. Speaker, we are the people who grow tea in Cholo, in Mlanje, or in Nkata Bay. The only difference is this: that the tea we grow is not for ourselves" (Mr. Chisungu, Cholo, p. 936).
69. Based on an assumed yield of 1,000 pounds of made tea per acre, and a London price of 3/- per pound; this would translate into 4d per lb. green leaf, from which 0.75d would be deducted as capital cess, and 1.0d. as revenues cess to cover fertilizers and leaf purchase, inspection, and collection costs.
70. By 1961, when CDC became involved, the pilot phase in Kenya, financed by the Kenya Government, involved some 1,900 acres and a factory.
71. "Hitherto, a limiting factor in planning smallholder tea development has been the availability of seedling stumps. With the introduction of vegetatively propagated material in the form of cuttings, which will largely be produced by the smallholders on their own holdings, this bottleneck will be removed. . . . Given satisfactory agronomic conditions and good husbandry, VP material will give higher yields per acre than seedling stumps" (Phillips and Cox, CDC 1967).
72. Figures for actual achievements are taken from the STA Annual Report of 1972-73, while the target figures are from CDC 1967, Schedule No. 2.
73. It appears that expatriate officials in the Ministry of Agriculture who were opposed to further expansion of the Vipya pulpwood project on economic grounds were dismissed in 1973-74.
74. Nurseries planted in 1974 would be ready for planting in late 1976; the Nursery Officer took up his appointment in April 1975.
75. The quality of a stump is largely judged by its diameter at ground level.

76. Financial viability meant meeting loan repayment schedules, where the loans mainly covered the supply of inputs for growing tea, but did not cover many overhead costs, such as extension staff and rural access roads, which were funded through the Malawi Government or foreign aid.

77. STA management apparently needed a lot of persuading that a second and indeed a third factory were not necessary (Smith, interview, December 1986). As late as January 1980 the minutes of the Board of MATECO recorded: "Noted as most significant that the Mission (of 1979 [?]) concluded that Malawi Smallholder Tea Authority has no alternative but to plan for the development of their own factory capacity on an independent basis" (Minutes, MATECO 21 January 1980).

78. The 1980/81 National Sample Survey of Agriculture (NSSA) reported that the average income per household in the Blantyre Agricultural Development District from all sources was MK123.

79. This section adds: "Nevertheless it is still true that, during the peak of the season, bad growers start new plucking rounds less often, and are therefore unlikely to harvest all of their pluckable leaf."

80. A visiting CDC agriculturalist had suggested, "A change to a coarser plucking standard should be considered if the premium for quality teas decreases. Some under-plucking was seen and there is a tendency to remove immature shoots and so reduce future yield potential" (STA Board Circular 14/82, Report on a visit to the Authority by Dr. M.J. Green).

81. Two-leaves-and-a-bud.

82. Also noted by the Reappraisal Mission: "The unsatisfactory quality and outturn of plants, noted by previous missions, has certainly been an important factor." While it must be admitted that there were inevitable logistical difficulties, there is still some validity in the charges of inefficient distribution. Many growers complain that stumps (which were anyway sometimes of very poor quality) were delivered in very poor condition because of delays in transport--some came from the northern region over 800 miles away. They also complained that deliveries came at inappropriate times (late afternoon just before a weekend) or in excessive numbers, making it difficult to plant them properly.

83. The 1980/81 NSSA does not report results by District but by Agricultural Development Division (ADD), which does not allow comparison with the 1968 NSSA.

84. In the major smallholder tea-growing regions of Kenya, 10 to 20 percent of smallholders were growing tea in 1974-75.

85. This example is referred to later as the Green Leaf Monitoring Exercise (GLME). It will appear that this stratified sample, which should have been representative of the population, in fact contains a serious under-representation of the below-average performing growers in Mulanje District.

86. This subsample is referred to as the Growers' Economic Survey (GES). It was drawn from only four blocks, all in Mulanje District, to give approximately equal representation of above-average, average, and below-average performing growers.

87. Few growers planted all their tea in a single year, and some of the smallholder planters who started planting in the late 1960s went on planting some tea for as many as 10 years. Those who started more recently have generally planted in fewer years.

88. An exception might be where the poor establishment is due to low fertility, which, in turn, prevents weed growth. But in such cases more labour would be required for soil conservation, mulching, and so on.

89. These assumptions are not entirely satisfactory, as low-yielding plots may well need more maintenance because the less vigorous growth of the tea results in more weed growth. On the other hand, lower yields may be the result of less effort on tasks such as weeding.

90. For a grower who phased in planting over a number of years, paying off the capital debt would have taken about 30 years.

91. By the end of the 1984-85 season only 7.4 percent of growers had paid off their capital debt.

92. As pointed out above, the GLME sample is biased.

93. I use the term performance rather than yield because the yield of tea increases with age over the first 10-20 years of its life (according to circumstances). This is discussed further below.

94. The timing of the second payment was also brought forward compared to earlier years. This was likely to benefit production by making cash available at the beginning of the agricultural season, when cash is scarce but labour productivity high.

95. For the GES sample, nearly half the variation in net income from tea in 1984/85 was explained by total tea area, (weighted) average tea age, and performance relative to estimate.

96. This is likely to be the case with growers who would have had to apply enormous levels of mulch to their young tea to avoid high levels of plant deaths. No one could reasonably expect them

to do this, yet not doing so imposes a burden on the scheme and on other growers because the expenditure by STA on plants, etc., does yield enough output to cover the overheads.

97. This is a standard incentive problem for marketing cooperatives when the supply curve does not cut the cooperative's average revenue curve where it cuts its marginal revenue curve (see Palmer-Jones 1985 for a further discussion in relation to the STA; also Sexton 1984; Lopez and Spreen 1985).

98. Nalipiri Block was entirely public land, while Nakulanje was customary; all Nakulanje plots had a previous cropping history, while in the other blocks sampled in the GES there were plots with and without previous cropping history, on public and customary land. Some plots had portions on both public and customary land, and/or parts that had cropping and forest use.

99. These arguments apply to growers who have low yields as well as to those who do not have exceptionally fortunate conditions, where soils or microclimate, or exceptionally high quality plants give rise to higher productivity.

100. It is not clear whether proponents of schemes of this type envisage "failure," and what would happen or be done in the event of closure of the scheme. It is possible that they assume, given the government's guarantee of the loans, that the government will do what is necessary to ensure that the project continues (unless the technology fails completely), in particular, that it will pay the subsidies necessary to ensure a return sufficient to draw forth the appropriate level of grower-supplied inputs, albeit at very low levels of productivity.

101. An exception is CDC 1977, where the budget is prepared using a pattern of planting by smallholders over a number of years.

102. By 1985 only 7 percent of growers had paid off their capital debt.

103. This was a sample of growers in Mulanje for a survey--the Growers Economic Survey (GES)--taken from within the Green Leaf Monitoring Exercise (GLME) mentioned above.

104. The same applies to a firm whose profitability will be undermined either if the wage rate/labour productivity ratio is too high, or if it cannot recruit labour because the ratio is too low.

105. Caution in generalising from the success of a plantation sector to the probable viability of a smallholder sector is necessary for numerous reasons. The most obvious is that most of the plantation tea area was established somewhat earlier, when

financial and other circumstances were quite different. A number of hypotheses will be examined.

106. While it is difficult to compare yields and production costs between countries, it is the case that estate tea of comparable age and genetic potential in Malawi has yields at least as high as in Kenya.

107. Thus in the case of the plucking standard, CDC continued to support fine plucking well after TRF had begun to recommend three-and-a-bud plucking. Supporters of stump planting material included the director of TRF; extension into marginal areas was perhaps the result of STA's need to meet planting targets, as well as partly the result of political pressure; finally, given the MTA's assertion that there was or would soon be insufficient estate tea factory capacity to take all smallholder leaf, there was little that STA could do but establish a factory of its own. However, it is not clear what would have happened if either CDC or STA management had doubted MTA's assertion, or had been more hesitant to invest in a smallholder factory. Nor is it obvious that pressure could not have been resisted by STA management, had it not been so ready to pass the blame on to growers.

108. Visiting Agents (VAs) are "tea experts" hired by plantation companies to visit their estates, usually at least annually, to monitor and supervise local management.

109. Growers' Representatives, who are supposed to be elected by the growers, but whose appointment is subject to political and bureaucratic pressure, have not always been literate in English, and therefore often were unable to read STA documents. They are not provided with filing cabinets and cannot afford to invest in these themselves. Nor are they significantly remunerated for their attendance to STA business, which is more of a problem for them than for the much more affluent bureaucracy and plantation representatives.

110. This does not preclude some form of privatisation following either an improvement of STA finances or a write-off of some of its debt. Whether a commercial firm could be more effective than a more thorough cooperativisation of the STA is not a readily soluble question.

111. I heard of one larger middle-class Malawian farmer cultivating coffee as an outgrower of a tea estate that also had a coffee enterprise. A number of plantations in Kenya have outgrowers, but these are usually larger growers with ten or more acres, rather than the typical KTDA smallholder with about one acre of tea.

112. Estates in the tea areas have recently innovated coffee production with considerable profit; but costs of establishment,

mulching, agrochemicals, and skilled management are high, and the viability of developing smallholder coffee production using such techniques in this area of Malawi has not been established. The Smallholder Coffee Scheme in Malawi is in a different agro-ecological zone, on the Vipya Plateau, where modern input levels can be lower. However, it is not clear that the techniques applied by estates, largely transferred from Zimbabwe, could not be applied by a smallholder scheme in the tea areas.

113. The AES comparison of maize and smallholder tea profitability used a "low" estimate of maize yields of 1,400 kg per ha, while the 1981/82 NSSA reported average yields of 1,078 kg per ha. Sole crop hybrid and composite maize yields were reported as 1,196 and 1,960 kg per ha respectively, but composite varieties were not at all widely grown in the areas under discussion because, it was reported during the GES, they were not suitable for the higher rainfall areas.

114. The KTDA has also been the object of sophisticated cost-benefit analysis (Stern 1972).

115. "Should our proposal to plant these crops be not approved, we shall have done no harm in planting some seed" (S. Asst. AO CP to SAO CP, 7 July 1948, KNA AGR 4/166).

116. "No factory for the manufacture of tea shall be erected in Native reserves without the written permission of the Director of Agriculture."

117. From "3(2) In defining any such area [for African grown tea] the Director shall have regard to: (c) economic considerations affecting the interests of native tea growers."

118. Labour was another problem of tea estates at the time, but strangely, it does not appear in the correspondence. The Annual Report of the Chairman of the KTGA in 1949 and 1950 addresses the problems of labour supply, but not in relation to tea growing by Africans. The problem seems more one of getting labour out of labourers:

In spite of all this [welfare improvements], labour shows very little sense of responsibility, and no inclination to do more work. Three factors as I see it are largely responsible for a labourer's outlook: (a) An increasing tendency toward financial independence, created by more lucrative farming in his own reserve; (b) subversive propaganda, which is largely assisted by what he reads in the press; (c) lack of discipline and cooperative policy on the part of planters, farmers, and administration alike (1949),

and in 1950,

labour in general behaved very well throughout the 1949 season. . . . It is the considered opinion of many, that the time has now come . . . to arrive at some fair and workable solution of how to stimulate a greater increase in effort, at least an effort more commensurate with the ever rising cost of production (KNA AGRIC 1/246, Chairman's Address, 26 March 1949 and 10 March 1950).

119. Cowen writes: "Administrative decree, enforced by legal action from March 1962, was employed to rapidly eradicate the production and sale of sun-dried tea," the production of which was equivalent in 1961 in Othaya Division alone (then the main smallholder area) to 310,000 lbs of green leaf. Swainson says: "The government responded, and in 1964 the colonial regulations against sun-dried tea were confirmed in an ordinance which banned its sale in Kenya."

120. This is not to deny that later, when sun-dried tea was being produced in larger quantities, the tea companies did not object on grounds of competition; rather it seems that this was not the convincing argument.

121. Which is largely satisfied with teas, made in modern factories as a by-product of export tea manufacture, that cannot be sold on the international market (or do not readily fit into the marketing strategies of the world tea market oligopolists). These low quality teas have been the ones constrained under international regulations; in India their destruction has been ordered to reduce supplies.

122. Although at this time nearly 50 percent of Kenyan tea was sold on the local market, it would be unreasonable to have envisaged, and it has not been the case, that this would continue. Cowen seems to imply that a similar expansion of the market for sun-dried tea could have taken place, as has occurred for smallholder teas from Kenya, but this is debatable.

123. Which does not mean that they are, or were, right. I have argued that a coarser standard of plucking (three-and-a-bud in Malawi) is likely to be best for smallholders.

124. It is relevant to note that the domestic price of black tea was controlled, and in the early 1950s the tea companies complained: "Another aspect is that our tea producers have until recently been losing large sums in subsidising cheaper tea for the African. The existing differential between average world export price of our teas and the controlled price for internal packet tea is now 1/7 1/2 d. There is also a tax of approximately 2d per lb. Will the government share in these obligations, amounting to £195,000 a year and will they join and support the

Pool distribution which is carrying on this work?" (Director of Brooke Bond (EA) to Dir. of Ag., 2 January 1950, KNA AGR 4/166).

125. Of course the "official" thinking would itself have been influenced by previous history, and influences of settlers and others. It would not have been purely autonomous, but this is not to say that it was entirely determined by any pressure group.

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